WORLD DATA CENTER A
Oceanography

CATALOGUE OF DATA

CHANGE NOTICE NOS. 34 and 35

WDCA-OC-85-2

World Data Centers conduct international exchange of geophysical observations in accordance with the principles set forth by the International Council of Scientific Unions. WDC-A is established in the United States under the auspices of the National Academy of Sciences.

WORLD DATA CENTER A
Oceanography

CATALOGUE OF DATA

CHANGE NOTICE NOS. 34 and 35

(1 JANUARY-31 DECEMBER 1984)

WORLD DATA CENTER A
Oceanography
Washington, D.C.

September 1985

ABSTRACT

This change notice lists and describes all data received by WDC-A, Oceanography during the period 1 January - 31 December 1984. It supplements the original six-volume Catalogue of Data, which includes Change Notice Nos. 1-16. The types of data catalogued include oceanographic station data, bathythermograph data, current measurements, biological observations, meteorological observations, and sea surface measurements. An Alphabetical Index of ship names and a Geographical Index of ocean areas assist the user in selecting the required data. Publications are cross referenced by accession number with the WDC-A Catalogue of Accessioned Publications.

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PREFACE

The six-volume Catalogue of Data and the loose-leaf Change Notice Nos. 1-16, which have been integrated into the Catalogue, now list all oceanographic data received by World Data Center A, Oceanography, from July 1957 through June 1975. The Catalogue has a loose-leaf arrangement of sheets, which have been punched for standard three-ring binders. It includes station location charts for many cruises.

Beginning with Change Notice No. 17, each Change Notice is printed in a modified format as a separate, bound publication describing all data received during a particular six-month or one-year period. The six-volume Catalogue of Data, including Change Notice Nos. 1-16, continues to serve as a reference volume for data received from July 1957 through June 1975. Provision has been made in the modified format for correlating newly received data for a particular cruise with data previously received for that same cruise and already described in the original six-volume Catalogue, including Change Notice Nos. 1-16.

The capability for identifying those data, which have been machine-processed by a national, regional, or responsible national oceanographic data center, has been retained in the modified catalogue format. In addition, this format provides a column for listing the catalogue number from the WDC-A, Oceanography, Catalogue of Accessioned Publications, thus identifying the published report in which the referenced data appear.

Data gathered before the beginning of the IGY in 1957 are not usually catalogued by the World Data Centers. However, extensive collections of pre-IGY oceanographic data gathered by various countries are available through the facilities of this Center. These data for the most part are oceanographic serial station data, surface and related data available in automated form. Machine listings, punched cards, and magnetic tapes containing these data can be prepared upon request.

WDC-A, Oceanography, welcomes suggestions for improved ways to present information in the Change Notices to the Catalogue of Data. It will make every effort to promptly correct any cataloguing error or omission brought to its attention.

INTRODUCTION

The World Data Center system was established in 1957 to collect data from the numerous and widespread observational programs of the International Geophysical Year (IGY) under the principles set forth by the International Council of Scientific Unions (ICSU) and to make such data readily accessible for an indefinite period of time to interested scientists and scholars. The system consists of World Data Center A (WDC-A) located in the U.S.A.; WDC-B located in the U.S.S.R.; and WDC-C located in Western Europe, Australia, and Japan. WDC-A is established under the auspices of the U.S. National Academy of Sciences, where the Coordination Office is located. WDC-A is divided into seven discipline subcenters whose addresses are given on page iv. These centers are located in institutions which, in the opinion of the Academy, can best serve the interests of science because of their data-handling capabilities for the appropriate scientific disciplines. WDC-A, Oceanography, is collocated with the National Oceanographic Data Center (NODC) in Washington, D.C.

ICSU first assigned responsibility for the operation of the World Data Centers to its Comite Special de l'Annee Geophysique Internationale (CSAGI). After completion of the IGY programs, CSAGI's responsibilities were terminated in 1959. ICSU then delegated the responsibility for the operation of the World Data Centers in the post-IGY period to its Comite International de Geophysique (CIG). These functions are now discharged by the ICSU Panel on World Data Centres. The framework for continued international exchange of oceanographic data is set forth in ICSU's Guide to International Data Exchange through the World Data Centres and the Intergovernmental Oceanographic Commission's (IOC's) Manual on International Oceanographic Data Exchange.

The types of oceanographic data desired for inclusion in the World Data Center system are those from "Declared National Programs (DNP's)" and international cooperative expeditions. Declared National Programs are those which a nation has publicly declared with the implied intention of exchanging the resulting data internationally. Data resulting from DNP's are to be exchanged internationally in accordance with provisions of the IOC's Manual and the ICSU Guide. Lists of "National Oceanographic Programs (NOP's)" are compiled, usually annually, by the various national committees on oceanography, submitted to the Intergovernmental Oceanographic Commission (IOC), and published in various IOC information documents.

Contributors of oceanographic data to the World Data Center system and national committees on oceanography are urged to compare the Catalogue of Data with their declared national programs published in IOC information documents to determine whether the cruises actually completed agree with those listed and to ensure that the data resulting from them are transmitted to the World Data Centers in the manner prescribed by the IOC Manual and the ICSU Guide. Data need not be limited to Declared National Programs; WDC-A, Oceanography, welcomes any additional data that fall within the framework of the ICSU Guide and the IOC Manual and that contributors may wish to include in the World Data Center system.

HOW TO USE THE CHANGE NOTICES TO THE CATALOGUE OF DATA

Catalogue Numbering System

The catalogue numbering system uses groups of numbers and letters to designate identifying references for purposes of data archiving and retrieval. A catalogue number consists of numerals for the assigned: series, country, institution, ship and cruise.

Series -- The catalogue numbering system is divided into basic groups called series. At present, these consist of the 100 series for data from ships and other mobile platforms and the 200 series for data from shore and fixed stations in the following categories:

a. Coastal and island stations.
b. Near shore manned stations; i.e., lightvessels and platforms.
c. Offshore manned stations; i.e., ocean weather ships.
d. Unmanned stations; i.e., automatic buoys.
e. Stations on shipping routes.
f. Offshore reference stations visited regularly.
g. Cables in use for oceanographic observations.
h. Repetitive drifting observations; i.e., ice islands, drifting buoys.

Country -- A list in the Indexes section includes all countries and institutions from which this Center has received data during this period together with their discrete identifying numbers. The series and two-digit country number comprise the first three digits of the catalogue number.

Example: For country number 1, Argentina, data from ships and mobile platforms are catalogued as 101, and data from shore and fixed stations as 201.

NOTE: The designations of countries used in this catalogue do not imply the expression of any opinion whatsoever on the part of this Center concerning the legal status of any country or territory, or of its authorities, or concerning the delineation of the frontiers of any country or territory.

Institution -- An institution which contributed data, either directly or through its designated national agency or national, regional or specialized oceanographic data center, is assigned a decimal number following the series/country number.

Example: The number 101.1 is assigned to data taken by ships and mobile platforms and received from the Argentine Servicio de Hidrografia Naval, and the number 201.1 is assigned to data taken at shore and fixed stations and received from the same institution.

Ship -- Each ship, or in some instances a group of ships operating together, is assigned a letter following the series/country/institution

number. The letter is followed by a number assigned to the particular cruise as the data are received.

NOTE: The term "cruise" is used in this catalogue to define, whenever possible, the beginning and ending dates of a series of data collected by a ship, usually identified by the contributing institution with a cruise name and/or number. Sometimes it is necessary to group together several series of data from one or more ships under one catalogue number.

Example: The first cruise data received from the Argentine Servicio de Hidrografia Naval are from the ship CAPITAN CANEPA, which is assigned the letter A, followed by the number 1, thus A-1; the second cruise is A-2, the third is A-3, etc.

All these numbers are combined to make up the complete catalogue number.

A similar system is used in the 200-series for ships but is not applied to lightvessels and fixed shore stations; for the latter the ship/cruise identifier is omitted. For these categories, the series/country/institution numbers are given, but the lightvessel's or station's name must be added instead of the ship/cruise number to complete the catalogue identification.

Example: The Canadian station at Triple Island is identified as: 206.3 Triple Island.

A shore station is listed under the country in or near whose territory it is located. If observations are carried out and the data contributed by an institution of another country, the observing country's name and institution are listed after the name of the country of location.

How to Use the Alphabetical Index

1. Look up the name of the ship or fixed station in the Alphabetical Index where the related country/institution/ship catalogue numbers are listed.

2. Look up, under the respective countries, the indicated Catalogue Numbers.

How to Use the Geographical Index

1. Obtain the geographic area number and name from the Geographical Index Charts.

2. Look up the list of catalogue numbers of available data for the area in the Geographical Index.

3. Use these catalogue numbers to locate information about the types and amount of data available.

How to Obtain Data from WDC-A, Oceanography

When communicating with the Center for additional information concerning data, always refer to the specific catalogue numbers for data of interest to you. The catalogue numbers are designed to speed the identification and retrieval of the information or data you need.

Address all correspondence to:

Director
World Data Center A, Oceanography
National Oceanic and Atmospheric Administration
Washington, D.C. 20235, U.S.A.

If you telephone, the area code is 202.

The Director's number is 634-7500.
The Associate Director's number is 634-7249.
The Data Archives number is 634-7249.

If you wish to visit the Center, its office hours are from 6:30 a.m. to 4:00 p.m., Monday through Friday. The Center is not open on Saturdays, Sundays, and U.S. national holidays. If you wish the use of study space, you should, if possible, give the Center a day or two advance notice so that necessary arrangements can be made. There is no charge for the use of study space.

Guidelines for Dissemination of Data and Information by WDC-A, Oceanography

World Data Center A, Oceanography is held responsible by the ICSU Guide and the IOC Manual on International Oceanographic Data Exchange for the provision of data and information to any qualified requester in the international scientific community. In general, small requests from activities or individuals affiliated with national or regional contributors to the World Data Centers for Oceanography will be considered as an exchange service and will be fulfilled without charge. Similar requests from noncontributors may be handled in the same way. For certain types of requests, limitations in funding, personnel and facilities may preclude direct or free provision of data or information by World Data Center A, Oceanography; in such cases, the following guidelines will apply:

1. In the case of large or specialized requests by noncontributors, WDC-A, Oceanography, will recover the costs for processing and shipping.

2. Unusually voluminous requests or requests for special data services or products not readily available at WDC-A, Oceanography, may be serviced by a regional, national, or disciplinary center at the request of

WDC-A, Oceanography. The requester will be charged an amount not to exceed the cost of processing and shipping.

3. WDC-A, Oceanography, may serve as an intermediary or coordinator for requests for unique types of data or data in other disciplines by placing the originator of the request in contact with the appropriate institution or disciplinary center.

The format in which oceanographic data are sent to the Center varies widely, and the most appropriate method of reproduction differs accordingly. Unless a requester specifies otherwise, the Center always attempts to use the method which will most satisfactorily reproduce the data with the least expense to the requester. Occasionally, the Center acquires extra copies of data, which are made available to requesters without charge as long as the supply lasts.

Acknowledgment of Data Sources

In many instances, data contributed to the Center are unpublished at the time of receipt. Unpublished data can be identified in the Change Notice by the absence of a number in the column entitled WDC-A Accessioned Publications Number. Accordingly, as stipulated by the Guide, recipients of copies of such data from the Center are reminded that the rights of the original investigators must always be respected. Thus, it is requested that if any data supplied by the Center are published, due acknowledgment be made of the institution which undertook the original observations. To facilitate proper acknowledgment, the Change Notice indicates the originating institution.

PART I

CATALOGUE INDEXES

EXPLANATION OF THE ALPHABETICAL INDEX OF SHIPS AND FIXED STATIONS

This index presents in alphabetical order the names of the ships, lightvessels, platforms, and shore stations that are listed on the Data Information sheets.

Ship or Fixed Station -- The name of the ship, lightvessel, platform, lighthouse, shore station, etc. Names of ships and lightvessels are given in capital letters, with lightvessels identified by (LV) after their name. All others not so identified are shore or other types of fixed stations.

Country -- The name of the country that used the ship to collect data, or the name of the country in or near whose territory fixed oceanographic station observations were made. If the data were collected by an institution of another country, the contributing country is listed after the one where the observations were taken.

Institution Number -- The institution number and ship letter assigned to each ship are given in this column to facilitate locating data information in the catalogue.

EXPLANATION OF THE GEOGRAPHICAL INDEX

The Geographical Index is based on the divisions of areas shown on the three charts immediately preceding the Index. These divisions are defined in "Limits of Oceans and Seas," Special Publication No. 23 of the International Hydrographic Bureau, third edition, Monaco, 1953. To define the extensive areas of the Atlantic, Indian, and Pacific Oceans more specifically, the following subdivisions have been added:

23 - North Atlantic Ocean

- 23a - Northeast Atlantic
- 23b - Northwest Atlantic

32 - South Atlantic Ocean

- 32a - Southeast Atlantic
- 32b - Southwest Atlantic

45 - Indian Ocean

- 45a - Northwest Indian
- 45b - Northeast Indian
- 45c - Southwest Indian
- 45d - Southeast Indian

57 - North Pacific Ocean

- 57a - Northwest Pacific
- 57b - Northeast Pacific

61 - South Pacific Ocean

- 61a - Southwest Pacific
- 61b - Southeast Pacific

SO - Southern Oceans

South of latitude 50° South

The catalogue numbers of ship cruises extending into any of the areas, or shore or fixed stations located in the areas, are listed under the area's number and name.

ALPHABETICAL INDEX

SHIP OR FIXED STATION	COUNTRY	INSTITUTION NUMBER	
		100 SERIES	200 SERIES
- A -			
ABUKUMA	Japan	124.13 B	
ACONA	United States of America (U.S.A.)	139.20 A	
AFONSO DE ALBUQUERQUE	Portugal	133.1 F	
AGS No. 1	Japan	124.28 B	
AGS No. 3	Japan	124.28 C	
AGS No. 4	Japan	124.28 D	
AGS No. 5	Japan	124.28 F	
Aircraft	Canada	106.22 O	
ALBATROSS IV	U.S.A.	139.23 D	
Alborg	Denmark		209.1
ALEXANDER AGASSIZ	U.S.A.	139.8 D	
ALFRED NEEDLER	Canada	106.11 V	
ALMEIDA CARVALHO	Portugal	133.1 D	
ALMIRANTE SALDANHA	Brazil	104.1 A	
ALPHA HELIX	U.S.A.	139.8 S	
AMAMI	Japan	124.13 B	
ANDRE NIZERY	France	113.3 J	
ANDRIJA MOHOROVICIC	Yugoslavia	142.1 C	
ANHOLT NORD (LV)	Denmark		209.1
ANTON DOHRN	Germany (F.R.)	114.7 A	
A.R.C. SAN ANDRES	Colombia	108.3 A	
ARGOS	Sweden	135.1 G	
ARGUS	Union of Soviet Socialist Republics (U.S.S.R.)	137.10 II	
ASIZURI	Japan	124.13 B	
A.T. CAMERON	Canada	106.11 C	
ATLANTIS II	U.S.A.	139.1 C	
AWAZI	Japan	124.13 B	
- B -			
Bagenkop	Denmark		209.1
BLACK DOUGLAS	U.S.A.	139.8 D	
Bocca di Grado	Italy		223.2
Bocca di Primero	Italy		223.2
BORKUMRIFF (LV)	Germany (F.R.)		214.1

ALPHABETICAL INDEX

SHIP OR FIXED STATION	COUNTRY	INSTITUTION NUMBER	
		100 SERIES	200 SERIES
- C -			
CALANUS	Canada	106.22 I	
CAPRICORNE	France	113.3 H	
CHARLES H. GILBERT	U.S.A.	139.10 D	
CHOFU MARU	Japan	124.10 D	
Christianso	Denmark		209.1
CHUN MA SAN	Korea	143.2 F	
Coastal & Light Stations	Canada		206.8
CORIOLIS	France	113.3 D	
CORNIDE DE SAAVEDRA	Spain	134.2 B	
CUMULUS	Netherlands		226.2 C
- D -			
DARSHAK	India	119.6 A	
DAVID STARR JORDAN	U.S.A.	139.8 D 139.23 Y	
DAWSON	Canada	106.9 I	
DEEPAK	India	119.6 B	
DELAWARE II	U.S.A.	139.23 P	
DEUTSCHE BUCHT (LV)	Germany (F.R.)		214.1
DISCOVERER	U.S.A.	139.23 K	
DISCOVERY	United Kingdom	138.5 B	
DROGDEN (LV)	Denmark		209.1
- E -			
E.E. PRINCE	Canada	106.11 J	
EKLIPTIKA	U.S.S.R.	137.21 E	
ELBE I (LV)	Germany (F.R.)		214.1
ESAN	Japan	124.13 B	
ETIZEN	Japan	124.13 B	
- F -			
FEHMARNBELT (LV)	Germany (F.R.)		214.1
Frederikshavn	Denmark		209.1
Frederikssund	Denmark		209.1
FRIEDRICH HEINCKE	Germany (F.R.)	114.4 C	
FUJI	Japan	124.13 KKK	

ALPHABETICAL INDEX

SHIP OR FIXED STATION	COUNTRY	INSTITUTION NUMBER	
		100 SERIES	200 SERIES
- G -			
GADUS ATLANTICA	Canada	106.9 AA	
GAUSS II	Germany (F.R.)	114.1 Q	
GEDSER REV (LV)	Denmark		209.1
- H -			
HAKUHO MARU	Japan	124.24 B	
HAN RA SAN	Korea	143.2 G	
HATERUMA	Japan	124.13 B	
HOKKO MARU	Japan	124.21 G	
HOKUSEI MARU	Japan	124.2 C	
HORIZON	U.S.A.	139.8 D	
HORNS REV (LV)	Denmark		209.1
HUDSON	Canada	106.9 F	
HUGH M. SMITH	U.S.A.	139.10 A	
HUZI	Japan	124.13 B	
- I -			
ISAZU	Japan	124.13 B	
ISUZA	Japan	124.13 B	
IWAKI MARU	Japan	124.13 B	
IZU	Japan	124.13 B	
- J -			
JEAN CHARCOT	France	113.3 K	
JI RI SAN	Korea	143.2 I	
JOHN R. MANNING	U.S.A.	139.10 B	
- K -			
KADETREN DEN	Denmark		209.1
KAIYO	Japan	124.13 B	
KALMAR	U.S.S.R.	137.13 T	
KAMISIMA	Japan	124.13 B	
KATTEGAT S (LV)	Denmark		209.1
KEIFU MARU	Japan	124.1 F	
Klintholm Havn	Denmark		209.1
Kobenhavn	Denmark		209.1

ALPHABETICAL INDEX

SHIP OR FIXED STATION	COUNTRY	INSTITUTION NUMBER	
		100 SERIES	200 SERIES
KOFU MARU	Japan	124.1 E 124.8 D	
KOSIKI	Japan	124.13 B	
KUMA	Japan	124.13 B	
KUNIGAMI	Japan	124.13 B	
KUROBE	Japan	124.13 B	
Kysthospitalet	Denmark		209.1
- L -			
LADY HAMMOND	Canada	106.11 U	
LAESO NORD (LV)	Denmark		209.1
LOUIS S. ST. LAURENT	Canada	106.15 C	
- M -			
MASYU	Japan	124.13 B	
MATUSIMA	Japan	124.13 B	
MATUURA	Japan	124.13 B	
MC ARTHUR	U.S.A.	139.23 W	
MEIRING NAUDE	South Africa	136.1 C	
MEIYO	Japan	124.13 B	
METEOR	Germany (F.R.)	114.1 J	
Middelfart	Denmark		209.1
Middelgrund Fort	Denmark		209.1
MILLER FREEMAN	U.S.A.	139.23 X	
MINABE	Japan	124.13 B	
MINNETONKA	U.S.A.		239.7 X
MIURA	Japan	124.13	
MOTOBU	Japan	124.13 B	
MT. MITCHELL	U.S.A.	139.23 Q	
MUROTO	Japan	124.13 B	
- N -			
NAVICULA	Canada		206.6 B
Neah Bay	U.S.A.		239.2
NEW HORIZON	U.S.A.	139.8 V	
NOTO	Japan	124.13 B	
- O -			
Ocean Data Buoy Nos. 4, 6, 7,	Japan		224.1 A
OCEANOGRAPHER	U.S.A.	139.23 L	

ALPHABETICAL INDEX

SHIP OR FIXED STATION	COUNTRY	INSTITUTION NUMBER	
		100 SERIES	200 SERIES
OGON	U.S.S.R.	137.13 I	
OKI MARU	Japan	124.13 B	
OKINAWA	Japan	124.13 B	
OSHORO MARU	Japan	124.2 B	
OZIKA	Japan	124.13 B	
- P -			
PANULIRUS II	U.S.A.		239.13 C
PARIZEAU	Canada		206.8 E
PELAMIDA	U.S.S.R.	137.13 B	
PERSEI III	U.S.S.R.	137.11 L	
POSEIDON	Germany (F.R.)	114.2 E	
- Q -			
QUADRA	Canada		206.8 A
- R -			
RAINIER	U.S.A.	139.23 C	
REBUN	Japan	124.13 B	
REINE POKOU	France	113.3 I	
RESEARCHER	U.S.A.	139.23 A	
ROCKAWAY	U.S.A.	139.16 J	
Rodbyhavn	Denmark		209.1
Rodvig	Denmark		209.1
Rorvig	Denmark		209.1
RYOFU MARU	Japan	124.1 B	
- S -			
SADO	Japan	124.13 B	
SAGAMI MARU	Japan	124.13 B	
SATUMA	Japan	124.13	
SEIFU MARU	Japan	124.1 E	
		124.11 D	
SENDAI	Japan	124.13 B	
SEVASTOPOL	U.S.S.R.	137.11 D	
SHOYO	Japan	127.13 GGG	
SHOYO MARU	Japan	124.21 B	
SHUMPU MARU	Japan	124.9 A	
SHUNYO MARU	Japan	124.21 F	
		124.23 E	

ALPHABETICAL INDEX

SHIP OR FIXED STATION	COUNTRY	INSTITUTION NUMBER	
		100 SERIES	200 SERIES
SIKINE	Japan	124.13 B	
SILAS BENT	U.S.A.	139.3 J	
SINANO	Japan	124.13 B	
SIRETOKO	Japan	124.13 B	
SKAGENS REV (LV)	Denmark		209.1
Sletterhage	Denmark		209.1
SNP-1	Peru	130.1 D	
SOLEA	Germany (F.R.)	114.11 B	
Sonderborg	Denmark		209.1
SORATI	Japan	124.13 B	
SOYA	Japan	124.13 B	
SQUAMISH	Canada		206.8 G
ST. CATHARINES	Canada		206.4 A
STONETOWN	Canada		206.4 A
Storstromsbro	Denmark		209.1
SUMA	Japan	124.28 H	
SURVEYOR	U.S.A.	139.23 J	
SUZUKA	Japan	124.13 B	
- T -			
TAE BAEK SAN	Korea	143.2 H	243.1 C
TAKUYO	Japan	124.13 E	
TAMANGO	U.S.S.R.	137.13 H	
TANGAROA	New Zealand	127.1 G	
T.G. THOMPSON	U.S.A.	139.4 B	
THETIS	Sweden	135.1 E	
TIBERIADES	Chile	107.4 A	
TRIDENT	U.S.A.	139.5 B	
TOPSEDA	U.S.S.R.	137.11 B	
TYOKAI	Japan	124.13 B	
- U -			
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SHIP OR FIXED STATION	COUNTRY	INSTITUTION NUMBER	
		100 SERIES	200 SERIES
- W -			
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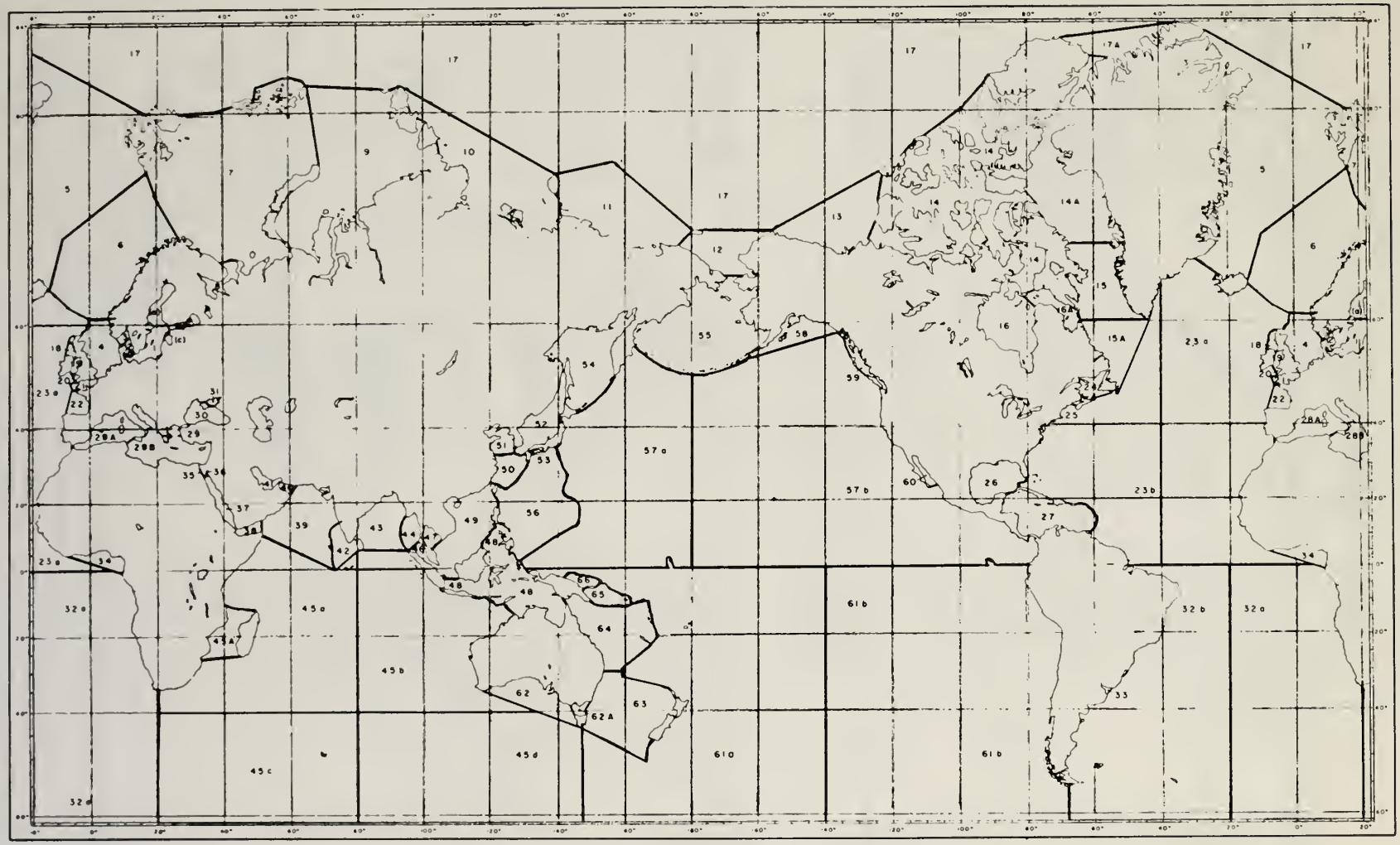
WAKATAKA MARU	Japan	124.21 E	
WALTHER HERWIG	Germany (F.R.)	114.7 B	
WECOMA	U.S.A.	139.15 E	
WESTWARD	U.S.A.	139.23 M	
- Y -			
YAHIKO	Japan	124.13 B	
YELCHO	Chile	107.1 B	
YOKO MARU	Japan	124.19 A	
YONAKUNI	Japan	124.13 B	



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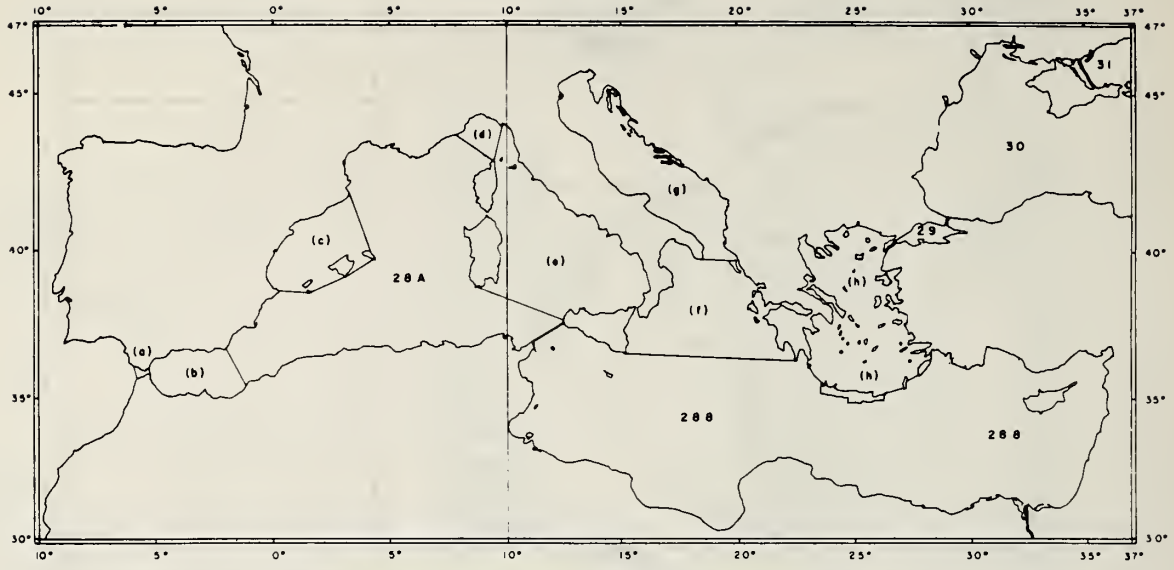
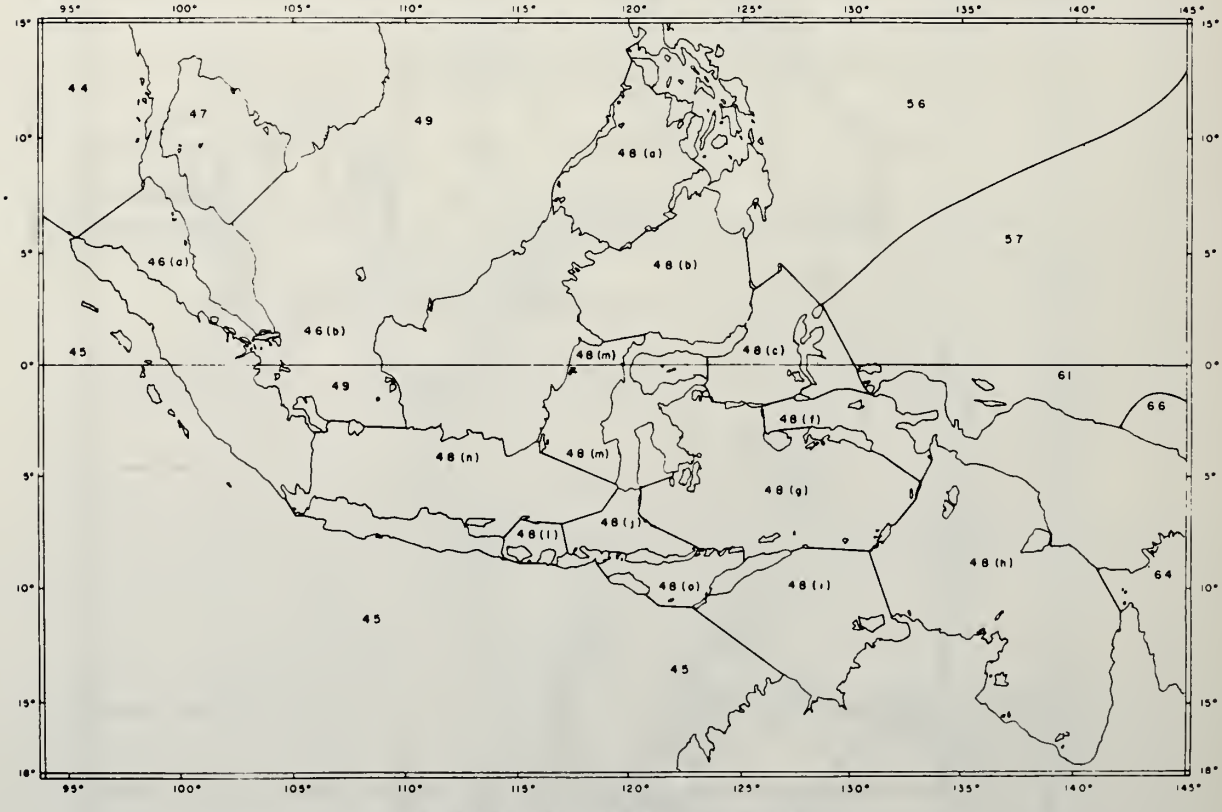


GEOGRAPHICAL INDEX - DETAILS OF MEDITERRANEAN AREA



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2. AUSTRALIA
3. BELGIUM
4. BRAZIL
5. BURMA
6. CANADA
7. CHILE
8. COLOMBIA
9. DENMARK
10. ECUADOR
11. FINLAND
12. TAIWAN
13. FRANCE
14. GERMANY (Federal Republic)
15. GERMANY (Democratic Republic)
16. GHANA
17. GUATEMALA
18. ICELAND
19. INDIA
20. INDONESIA
21. IRELAND
22. ISRAEL
23. ITALY
24. JAPAN
25. MEXICO
26. NETHERLANDS
27. NEW ZEALAND
28. NORWAY
29. PAKISTAN
30. PERU
31. PHILIPPINES
32. POLAND
33. PORTUGAL
34. SPAIN
35. SWEDEN
36. SOUTH AFRICA
37. UNION OF SOVIET SOCIALIST REPUBLICS
38. UNITED KINGDOM
39. UNITED STATES OF AMERICA
40. URUGUAY
42. YUGOSLAVIA
43. KOREA (Republic of)
44. IVORY COAST
45. NIGERIA
46. CONGO (People's Republic)
47. MALAYSIA
48. MALAGASY REPUBLIC
49. MOROCCO
50. SENEGAL
51. THAILAND
52. TURKEY
53. VENEZUELA
54. EL SALVADOR
55. COSTA RICA
56. PANAMA
57. HONDURAS
58. DOMINICAN REPUBLIC
59. HAITI
60. CUBA
61. JAMAICA
62. AUSTRIA
63. ROMANIA
64. ARAB REPUBLIC OF EGYPT
65. LEBANON
66. ALGERIA
67. MONACO
68. GREECE
69. TANZANIA
70. SIERRA LEONE
71. TUNISIA
72. TRINIDAD AND TOBAGO
73. PEOPLE'S REPUBLIC OF CHINA
74. CZECHOSLOVAKIA
75. MAURITANIA

LIST OF INITIALS OF DATA CENTERS

AODC	Australian Oceanographic Data Centre
BNDO	Bureau National des Donnees Oceaniques, France
CADO	Centro Argentino de Datos Oceanograficos
CECOLDO	Centro Colombiano de Datos Oceanograficos
CEDO	Centro Espanol de Datos Oceanograficos
CENADO	Centro Nacional de Datos Oceanograficos, Mexico
CENDOC	Centro Nacional de Datos Oceanograficos de Chile
CNRDO	Centro Nazionale Raccolta Dati Oceanografici, Italy
DOD	Deutsches Ozeanographisches Datenzentrum
ENODC	Egyptian National Oceanographic Data Center
FAOFDC	Food and Agriculture Organization of the United Nations, Fishery Data Centre
ICES	International Council for the Exploration of the Sea
IHC	International Hydrographic Organization
INODC	Indian National Oceanographic Data Center
JODC	Japan Oceanographic Data Center
KODC	Korean Oceanographic Data Center
MEDS	Marine Environmental Data Service, Canada
MIAS	Marine Information and Advisory Service, United Kingdom
NCOG	Nederlands Centrum voor Oceanografische Gegevens
NOD	Norsk Oseanografisk Datasenter
NODC	National Oceanographic Data Center, U.S.A.
PSMSL	Permanent Service for Mean Sea Level
SANODC	South African National Oceanographic Data Center

LIST OF COUNTRIES AND INSTITUTIONS CONTRIBUTING

DATA TO WDC-A, OCEANOGRAPHY DURING THE PERIOD

1 January - 31 December 1984

	COUNTRY & INSTITUTION	CATALOGUE NUMBER	
04	BRAZIL		
	Diretoria de Hidrografia e Navegacao	104.1	
06	CANADA		
	Fisheries Research Board of Canada		
	Pacific Oceanographic Group	106.4	206.4
	Bedford Institute of Oceanography	106.9	206.6
	Fisheries Research Board of Canada		
	Biological Station, St. John's, Nfld	106.10	
	Fisheries Research Board of Canada		
	Biological Station, St. Andrews, N.B.	106.11	
	Defence Research Establishment, Atlantic	106.15	
	Department of Fisheries and Oceans,		
	Arctic Biological Station.	106.22	
	Department of Fisheries and Oceans		
	Institute of Ocean Sciences		206.8
07	CHILE		
	Instituto Hidrografia de la Armada	107.1	
	Catholic University of Valparaiso.	107.4	
08	COLOMBIA		
	Ministerio de Defensa Nacional, Armada Nacional.	108.3	
09	DENMARK		
	Danske Meteorologiske Institut		209.1
13	FRANCE		
	Office de la Recherche Scientifique		
	et Technique Outre Mer	113.3	
14	GERMANY (Federal Republic)		
	Deutsches Hydrographisches Institut	114.1	214.1
	Institut fur Meereskunde de Universitat Kiel	114.2	
	Biologische Anstalt, Helgoland	114.4	
	Institut fur Seefischerei	114.7	
	Institut fur Kusten-und Binnefischerei der BFA	114.11	

15	GERMANY (Democratic Republic)		
	Institut fur Hochseefischerei	115.2	
19	INDIA		
	Naval Hydrographic Office	119.6	
23	ITALY		
	Instituto Talassografico di Trieste	123.1	223.2
24	JAPAN		
	Japan Meteorological Agency	124.1	224.1
	Hokkaido University	124.2	
	Hakodate Marine Observatory	124.8	
	Kobe Marine Observatory	124.9	
	Nagasaki Marine Observatory	124.10	
	Maizuru Marine Observatory	124.11	
	Maritime Safety Agency	124.13	
	Seikai Regional Fisheries Research Laboratory	124.19	
	Tohoku Regional Fisheries Research Laboratory	124.21	
	Nansei Regional Fisheries Research Laboratory	124.23	
	University of Tokyo	124.24	
	Maritime Self Defense Force	124.28	
26	NETHERLANDS		
	Koninklijk Nederlands Meteorological Institut		226.2
27	NEW ZEALAND		
	New Zealand Oceanographic Institute	127.1	
30	PERU		
	Instituto del Mar del Peru	130.1	
33	PORTUGAL		
	Instituto Hidrografico, Servicio de Oceanografia . . .	133.1	
34	SPAIN		
	Instituto de Investigaciones Pesqueras	134.2	
35	SWEDEN		
	Institute of Hydrographic Research	135.1	
36	SOUTH AFRICA		
	Division of Sea Fisheries, Oceanographic Research Institute, Durban	136.1	
37	UNION OF SOVIET SOCIALIST REPUBLICS		
	Atlantic Scientific Research Institute of Fishing Economy and Oceanography (ATLANTNIRO)	137.10	
	Polar Institute of Scientific Investigations for Marine Fisheries and Oceanography (PINRO)	137.11	
	Pacific Ocean Institute of Scientific Investigations for Marine Fisheries and Oceanography (TINRO)	137.13	
	Ministry of Fisheries of the U.S.S.R.	137.21	

38	UNITED KINGDOM		
	National Institute of Oceanography	138.5	
39	UNITED STATES		
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	Bermuda Biological Station		239.13
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	Fisheries Research and Development Agency	143.2	243.1

PART II

CATALOGUE

EXPLANATION OF WDC-A, OCEANOGRAPHY, DATA INFORMATION SHEET

The Change Notice lists on Data Information sheets the data which have been received by this Center. The entries are described below. Countries are arranged in the sequence shown in the numerical list of countries. Data from each country are arranged in the sequence of catalogue numbers with the 100-series data sheets first, followed by the 200-series.

Country/Catalogue Number -- The country name and corresponding two-digit number under which the data are catalogued, as well as the identifying number for the data information, are given in this column. Details of the catalogue numbering system are given in the section How to Use Change Notices to the Catalogue of Data. The numbers corresponding to the country and institution portions of the Catalogue Number are found in the index section that lists countries and contributing institutions. In the Catalogue Number column beneath the Catalogue Number, the term "CAT. OF DATA" or "Change" followed by an asterisk, e.g. "Change 17*", indicates that data for this listed cruise represent an addition to data previously received by WDC-A, Oceanography, and already described under this Catalogue Number in the Catalogue of Data (including Change Notice Nos. 1-16) or the referenced Change Notice. The omission of this symbol in the Catalogue Number column is an indication that no data have been received for this cruise prior to this Change Notice. An asterisk (*) is also placed beside each data entry which represents an addition to data catalogued previously; the total number of observations held for this cruise is shown in parentheses ( ) beneath the data entry. Data entries preceded by a minus sign (-) and enclosed in parentheses, e.g. (-9), indicate a deletion of observations.

Ship/Fixed Station (Cruise) -- Names of ships are printed in capital letters; lightvessels are identified by (LV) following the name. All other names not so designated are those of shore stations and other types of fixed platforms, such as lighthouses (LH) or offshore towers; names are reported as they appear with the data. If a ship's cruise has an identifying number or name assigned by the originator or if it participated in a named expedition, that information is given beneath the ship name.

Period -- The dates during which the data were gathered. In some instances, depending on the nature of the project, the dates indicate the beginning and ending of a cruise or expedition, while in others the dates indicate the first and last observations. Months are in Roman numerals, the days and years in Arabic numerals, in the order of day/month/year. For shore and fixed stations months and years only are usually given.

Region -- The region(s) of the World Ocean where observations were gathered. The areas listed are defined in "Limits of Oceans and Seas," International Hydrographic Bureau, Special Publication No. 23, third edition, Monaco, 1953, with certain modifications as indicated in the Catalogue Indexes section. Latitudes and longitudes of fixed stations are shown as they appear with the data.

Oceanographic Serial Stations

Number of Stations -- The number of oceanographic serial stations (also referred to as hydrographic, hydrographical, hydrological and hydrochemical stations by various authorities) at which serial measurements of temperature, salinity, and other chemical values are made, normally to depths of five meters or greater. Data to depths less than five meters are usually catalogued as Surface Observations. The single dagger symbol (†) is used to denote data obtained by electronic, in-situ, Salinity/Temperature/Depth (STD) or Conductivity/Temperature/Depth (CTD) sensors.

Physical and Chemical Data -- The types of physical and chemical data, available at serial depths as observed and as computed values, are listed using the following symbols and abbreviations:

T - Temperature of the water sample
Cl - Chlorinity
S - Salinity
O_2 - Dissolved oxygen content
CO_2 - Carbon dioxide
pH - Hydrogen ion concentration
Alk - Alkalinity
N - Nitrogen compounds
P - Phosphorous compounds
Si - Silicon compounds
σ_t - Density of the water at T & S in-situ and at atmospheric pressure
δ - Anomaly of specific volume
δ_t - Thermosteric anomaly
ΔD - Anomaly of dynamic heights
PE - Potential energy
PT - Potential temperature
Q - Q factor for transport computations
V_s - Speed of sound

NOTE: Chemical compounds may also be indicated by standard chemical symbols.

Sample Depths -- The depth to which the predominant number of samples were taken is given to the nearest 100 meters, except when the observations are in water of less than 100 meters in depth, in which case it is usually given to the nearest 10 meters. When more than one significant level exists, these are indicated one below the other, or a range of levels is given.

Maximum Depth -- The maximum depth of sampling (depth of cast) is given.

BT's -- The type and number of mechanical bathythermograph (MBT) or expendable bathythermograph (XBT) observations are indicated by:

MB - Analog prints of bathythermographs taken by a mechanical BT
MTb - Tables or listings of mechanical BT temperature readings at selected depths
XB - Analog prints of bathythermographs taken by an expendable BT
XTb - Tables or listings of expendable BT temperature readings at selected depths
DTb - Tables or listings of digital BT temperature readings at selected depths

Currents -- The types and quantity of observations of surface and subsurface currents are indicated by:

Surf - Surface
Subs - Subsurface

Bottom Topography -- The types of topographic data available are indicated by:

D - Sounding depths at oceanographic stations
Pl - Plotting sheets with tracks and sounding depths recorded
Pro - Profiles of bottom relief
Tab - Tables of positions and sounding depths
Ch - Charts in bathymetric contours or in physiographic relief

Bottom Composition -- The types and quantity of available sea-bottom geological samples and marine geophysical measurements are indicated by:

Surf - Records of sea-bottom surface geological samples obtained by grabs, dredges, buckets, trawls, etc., and including data for chemistry; size distribution; mass physical properties; and radiological, paleontological, and mineralogical determinations
Core - Records of vertical subsurface geological samples obtained by coring tubes, drilling, etc., and including analyses for chemistry; size distribution; mass physical properties; and radiological, paleontological, and mineralogical determinations
Phot - Photographs of the bottom or of samples
Refr - Seismic refraction measurements
Refl - Seismic reflection measurements
GrPr - Gravity profiles from field measurements, free air, bouguer or isostatic anomalies
GrPl - Gravity plots from field measurements, free air, bouguer or isostatic anomalies
GrML - Machine listings of gravity measurements
MaPr - Magnetic profiles from field measurements
MaPl - Magnetic plots from field measurements
MaML - Machine listings of magnetics measurements
HF - Heat flow measurements in the bottom

Biological -- The types of marine biological observations made and the number of stations and/or abundance of data are indicated by any of the following categories:

Phyt - Phytoplankton
Pigm - Pigments
PrPr - Primary productivity
Zoo - Zooplankton
Nek - Nekton
Eggs - Fish eggs and/or larvae
Neus - Neuston
Pleu - Pleuston
Sest - Seston
Bent - Benthos
PeF - Pelagic fishes
DeF - Demersal fishes
Cet - Cetacea
Micr - Microbiological data
Biol - Bioluminescence
Poll - Pollution studies
Surf - Surface visual observations of birds, fishes, mammals, reptiles and discolored water
FObs - Fishery observations
C14 - Carbon
Bore - Borers and foulers

Meteorological -- The types of meteorological observations taken in conjunction with oceanographic data are indicated by:

Wd - Wind direction and speed
W - Weather
Ta - Temperature of the air, dry bulb
Tw - Temperature of the air, wet bulb
Bar - Atmospheric pressure, barometer
Cld - Clouds
Vis - Visibility
Hum - Humidity
DP - Dew point
Pre - Precipitation
SoRa - Solar radiation
Rad - Radiosonde observations

Sea Surface -- The types of sea surface observations and measurements taken are listed. In addition to the abbreviations and symbols listed for Physical and Chemical Data, the following are also used:

Col - Color of the water
Tra - Transparency of the water
Wa - Visual data on waves, including sea state
IWa - Instrumented wave data

Ice - Data on ice in the sea
LP - Light penetration
LPW - Long period wave records
T,S,etc.$_{10,20}$ - Temperature, Salinity or other values at depths in meters below the surface as indicated by subscript. Thus, T_{10} = temperature at 10 meters. These are data that for various reasons are not included under Oceanographic Serial Stations.

Data Center Reference Number -- Data which have been processed by Automatic Data Processing (ADP) machine methods at a national, regional, or responsible oceanographic data center, usually have been assigned some type of identifying reference number by that center. The availability of data in punched card, magnetic tape, or machine listing format is indicated by the initials of the data center followed by that center's reference number. For example, machine-processed oceanographic station data for Reference Number 310863 of the National Oceanographic Data Center would appear as NODC 310863. As a means of identifying those types of data that have been machine-processed and thus correspond to the Reference Number, the Maltese Cross symbol (✠) is entered in the appropriate columns describing data that are automated under that Reference Number.

WDC-A Accessioned Publications Number -- The Catalogue Number from the WDC-A, Oceanography Catalogue of Accessioned Publications or yearly Supplements identifying the published report in which the referenced data appear. A blank in this column indicates that the data were not received in published form.

Remarks -- The double dagger symbol (‡) in the WDC-A Accessioned Publications Number column indicates that additional, descriptive remarks pertaining to these data may be found in the Remarks Section, which immediately follows the main Catalogue Section in this Change Notice.

NOTE: Track charts showing locations of oceanographic observations are not printed in this Change Notice. If a track chart is available for a particular cruise, that information will be given in the Remarks Section of this Change Notice. WDC-A will gladly provide copies of such track charts upon request.

WDC - A, OCEANOGRAPHY DATA INFORMATION

COUNTRY CATALOGUE NUMBER (*)	SHIP / FIXED STATION (CRUISE)	PERIOD	REGION (IHB)	TYPES OF OBSERVATIONS											DATA CENTER REFERENCE NUMBER	WDC-A ACC. PUBS. NUMBER
				OCEANOGRAPHIC SERIAL STATIONS				BATHY-THERMO-GRAPH	CURRENTS	BOTTOM TOPO-GRAPHY	BOTTOM COMPO-SITION	BIOLOGICAL	METEOR-OLOGICAL	SEA SURFACE		
				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH									
4. BRAZIL																
104.1 A-39 (Change 30)	ALMIRANTE SALDANHA (Cruise 88)	(30.X.-16.XI. 1980)*	32b	62*	(T,S,O_2,PO_4, NO_2,NO_3,SiO_4, pH) *	30-550*	578*			D *			(Wd,W,Ta,Tw Cld,Bar) *	Wa *		
104.1 A-40	ALMIRANTE SALDANHA (Cruise 89)	21.I.-11.IV. 1981	32b	195	T,S,O_2,PO_4, NO_2,NO_3,SiO_4, pH	100-1500	1565			D			Wd,W,Ta,Tw, Cld,Bar	Wa		
104.1 A-41	ALMIRANTE SALDANHA (Cruise 90)	29.VI.-25.VII. 1981	23b	61	T,S,O_2,PO_4, NO_2,NO_3,SiO_4, pH	10-180	180			D			Wd,W,Ta,Tw, Cld,Bar	Wa		
104.1 A-42	ALMIRANTE SALDANHA (Cruise 93)	5.-14.XI.1981	32b	49	T,S,O_2,PO_4, NO_2,NO_3,SiO_4, pH	400-1700	1700			D			Wd,W,Ta,Tw, Cld,Bar	Wa		
104.1 A-43	ALMIRANTE SALDANHA (Cruise 94)	17.-26.IV. 1982	23b,32b	64	T,S,O_2,pH	11-28	36						Wd,W,Ta,Tw, Cld,Bar	(T,S,O_2, pH)-8 ‡ Wa		
104.1 A-44	ALMIRANTE SALDANHA (Cruise 98)	16.VII.-21. VIII.1982	32b	88	T,S,O_2,PO_4, NO_2,NO_3,SiO_4, pH	100-1100	1280						Wd,W,Ta,Tw, Cld,Bar	Wa		
6. CANADA																
106.4 F-3 (Change 8)	VANCOUVER (Cruises P-67-5, P-68-1 thru P-68-4) ‡	11.XII.1967-23.XI.1968 ‡	57b (OWS"P")*	34* (97) ‡											NODC 181366* 181367* 181368* 188000* 181370*	
106.9 F-15	HUDSON (Cruise 82-001)	28.II.-4.IV. 1982	5,6,23a	293 † ‡	T,S,σ_t,δ,ΔD, PT,O_2,PO_4, NO_2,NO_3,SiO_3, Alk,CO_2	100-3800	3804			D			Wd,Ta,Tw,Bar			39.01-282 39.01-283
106.9 I-5 (Change 12)	DAWSON (Cruises BIO-69--049, -051, -053, -058) ‡	5.IX.-14.XI. 1969 ‡	15A * 23b,24	116 † * (155)		20-400 *	400								NODC 180429* 180375* 180376*	06.04-048
106.9 I-11	DAWSON	6.-13.V.,14.-18.VI.1971	23b	25	(T,S,σ_t,δ,ΔD, Vs) ✠	3500-5390	5394			D ✠			(Wd,Ta,Tw, Bar) ✠		NODC 181476 181477	
106.9 AA-3	GADUS ATLANTICA	14.-17.VII. 1978	23b	19	(T,S,σ_t,δ,ΔD, Vs) ✠	75-500	500			D ✠			(Wd,Ta,Tw, Bar) ✠		NODC 181472	
106.9 AA-4	GADUS ATLANTICA	2.-14.IV.1980	23b	61	(T,S,σ_t,δ,ΔD, Vs) ✠	75-500	500			D ✠			(Wd,Ta,Tw, Bar) ✠		NODC 181473	
106.10 D-1	Chartered Vessels	9.VII.-10. VIII.1980	23b	98	(T,S,σ_t,δ,ΔD, Vs) ✠	75-500	500			D ✠			(Wd,Ta,Tw, Bar) ✠		NODC 181475	

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				OCEANOGRAPHIC SERIAL STATIONS				BATHY-THERMO-GRAPH	CURRENTS	BOTTOM TOPO-GRAPHY	BOTTOM COMPO-SITION	BIOLOGICAL	METEOR-OLOGICAL	SEA SURFACE		
				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH									
106.11 C-25	A. T. CAMERON	18.-21.I.1980	23b	9	(T,S,σ_t,δ, Δ,Vs) ✠	50-500	500			D ✠			(Wd,Ta,Tw, Bar) ✠	(T,S,σ_t,δ, ΔD,Vs)-65 ✠	NODC 181474	
106.11 C-26	A. T. CAMERON	25.-27.I.,14. -15.II.1981	23b	7	(T,S,σ_t,δ, ΔD,Vs) ✠	500-740	746			D ✠			(Wd,Ta,Bar) ✠		NODC 181480 181481	
106.11 J-15	E. E. PRINCE	22.-29.VI. 1976	23b	13	(T,S,σ_t,δ, ΔD,Vs) ✠	30-135	472			D ✠				(T,S,σ_t,δ, ΔD,Vs)-66 ✠	NODC 181449	
106.11 J-16	E. E. PRINCE	8.VI.-8.XI. 1982 ‡	23b	212 ‡	(T,S,σ_t,δ, ΔD,Vs) ✠	10-400	439			D ✠			(Wd,Ta,Bar) ✠	(T,S,σ_t,δ, ΔD,Vs)-352 ✠	NODC 181455 thru 181459 181462	
106.11 J-17	E. E. PRINCE	3.-6.,15.-27. III.1983	23b	167	(T,S,σ_t,δ, ΔD,Vs) ✠	20-215	250			D ✠			(Wd,Ta,Bar) ✠	(T,S,σ_t,δ, ΔD,Vs)-4 ✠	NODC 181466 181467	
106.11 U-4	LADY HAMMOND	24.IX.-12., 30.X.-18.XI. 1979	23b	82	(T,S,σ_t,δ, ΔD,Vs) ✠	70-350	425			D ✠				(T,S,σ_t,δ, ΔD,Vs)-76 ✠	NODC 181450 181451	
106.11 U-5	LADY HAMMOND	24.III.-14.IV. 1981	23b	27	(T,S,σ_t,δ, ΔD,Vs) ✠	45-250	300			D ✠				(T,S.σ_t,δ, ΔD,Vs)-82 ✠	NODC 181453	
106.11 U-6	LADY HAMMOND	16.-24.III., 28.IX.-24.X. 1982	23b	220	(T,S,σ_t,δ, ΔD,Vs) ✠	20-250	380			D ✠				(T,S,σ_t, Vs)-6 ‡ ✠	NODC 181454 181460 181461	
106.11 U-7	LADY HAMMOND	6.I.-14.IV. 1983	23b	261	(T,S,σ_t,δ, ΔD,Vs) ✠	25-300	300			D ✠				(T,S,σ_t,δ, ΔD,Vs)-77 ✠	NODC 181464 181465 181468 thru 181471	
106.11 V-1	ALFRED NEEDLER	17.-27.XI. 1982	23b	6	(T,S,σ_t,δ, ΔD,Vs) ✠	130-240	325			D ✠				(T,S,σ_t,δ, ΔD,Vs)-121 ✠	NODC 181463	
106.15 C-3	LOUIS S. ST. LAURENT	27.-30.IX. 1972	14	7	(T,S,σ_t,δ, ΔD,Vs) ✠	60-200	200			D ✠			Wd ✠		NODC 181478	
106.15 F-1	Ship not identi-fied	26.IV.-25.V. 1975	14	27	(T,S,σ_t,δ, ΔD,Vs) ✠	20-200	200			D ✠			(Wd,Ta,Bar) ✠		NODC 181479	
106.22 I-2	CALANUS	27.VII.-1.IX. 1976	15	24	(T,S,σ_t,δ, ΔD,Vs, PO_4, NO_2,NO_3, SiO_4) ✠	7-50	50			D ✠			(Wd,W,Ta, Cld) ✠		NODC 181260	
106.22 O-1	Aircraft	20.III.-4.IV. 1983	13,14, 14a	53 †	T,S,σ_t,ΔD, Vs	75-1400	1487									06.17-089
206.4 A-4 (CAT. OF DATA)	ST. CATHERINES, STONETOWN (Cruises P-59-1 thru P-59-4) *	(20.I.-24.XI. 1959) *	57b	8 * 87										S * ✠	NODC (181315 thru 181319) * ‡	

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				OCEANOGRAPHIC SERIAL STATIONS				BATHY-THERMO-GRAPH	CURRENTS	BOTTOM TOPO-GRAPHY	BOTTOM COMPO-SITION	BIOLOGICAL	METEOR-OLOGICAL	SEA SURFACE		
				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH									
206.4 A-6 (CAT. OF DATA)	ST. CATHERINES, STONETOWN (Cruises P-59-5, P-60-1 thru P-60-4) *	9.XII.1959-19.I.1961	57b	13 * (123)											NODC 181325*	
206.4 A-32 (Change 5)	ST. CATHERINES, STONETOWN (Cruises P-61-1 thru P-61-3)	18.I.-7.VIII. 1961	57b	8 * (94)						D ✠					NODC (181327, 181328 181330 181334) *	
206.4 A-33 (Change 8)	ST. CATHERINES STONETOWN	CATALOGUE NUMBER DELETED FROM THE FILES.														
206.6 B-2	NAVICULA	12.V.-7.X. 1980	24	13	(T,S,σ_t,δ, ΔD,Vs) ✠	15-30	30			D ✠					NODC 181448	
206.8	Coastal and Light Stations	1.I.-31.XII. 1979 *														06.17-088
206.8 A-9 (Change 25)	QUADRA	CATALOGUE NUMBER DELETED FROM THE FILES.														
206.8 A-18	VANCOUVER, QUADRA (Cruises P-69-1 thru P-69-7, P-69-9) ‡	11.I.1969-7.I.1970 ‡	57b (OWS"P")	201 ‡	(T,S,σ_t,δ, ΔD,Vs,O_2) ✠	300-1900, 4000-4200	4253			D ✠					NODC 181371 thru 181378	
206.8 A-19	VANCOUVER, QUADRA (Cruises P-70-1 thru P-70-9) ‡	10.I.1970-9.I.1971 ‡	57b (OWS"P")	327 †‡	(T,S,σ_t,δ, ΔD,Vs,PE,O_2 ✠	75-2750 4000-4200	4237			D ✠				T,S	NODC 181379 thru 181384	06.17-081 06.17-082 06.17-083 06.17-084 06.17-090
206.8 A-20	VANCOUVER, QUADRA (Cruises P-71-1 P-71-9) ‡	9.I.1970-16.I.1972 ‡	57b (OWS"P")	215 †‡	(T,S,σ_t,δ, ΔD,Vs,PE,O_2) ✠	75-1480, 4100-4250	4252							T,S	NODC 181388 thru 181391, 181406 188005 thru 188007	06.17-085 06.17-086 06.17-087
206.8 B-2	Ship not identified	28.III.-21.IV. 1977	14	20 †	T,S,σ_t,Vs, Conductivity	50-300	315			D						06.17-093
206.8 B-3	Ship not identified	5.-6.III.,18.-19.VI.,17.-18.VII.,4.XII. 1979	59	66 †	T,S,σ_t	70-500	500			D						06.17-091
206.8 E-3	PARIZEAU (Cruise 73-7)	5.III.-18.IV. 1973	59	290 †	T,S,σ_t,δ, ΔD, Vs,PE	70-400	400									06.17-092
206.8 G-1	SQUAMISH (Cruises 1 thru 18) ‡	27.IV.1976-13.XII.1977 ‡	59	142 †‡	T,S,σ_t,O_2	60-220	220			D						06.17-094

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				OCEANOGRAPHIC SERIAL STATIONS				BATHY-THERMO-GRAPH	CURRENTS	BOTTOM TOPO-GRAPHY	BOTTOM COMPO-SITION	BIOLOGICAL	METEOR-OLOGICAL	SEA SURFACE		
				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH									
206.8 C-2	SQUAMISH (Cruises 19 thru 33) ‡	22.I.-14.XII. 1978 ‡	59	128†‡	T,S,σ_t,O_2	60-220	220			D						06.17-095
7. CHILE																
107.1 B-8	YELCHO (Cruise OM7)	10.-28.III. 1968	61b	80	(T,S,σ_t,ΔD, Vs, O_2) ✪	450-1200	1284						(Wd,Ta,Tw, Cld,Bar)✪		NODC 200033	
107.1 B-9	YELCHO (Cruise MARCHILE VIII)	16.VIII.-8. 1972	61b	78	(T,S,σ_t,ΔD, Vs,O_2) ✪	100-1985	1985			D ✪			(Ta,Tw,Bar) ✪		NODC 200014 200034	
107.1 B-10	YELCHO (Cruise OM9)	30.V.-11.VI. 1973	61b	14	(T,S,σ_t,ΔD, Vs,O_2) ✪	160-1100	1127			D ✪					NODC 200029	
107.1 B-11	YELCHO (Cruise OM10)	1.-28.VII.	61b	60	(T,S,σ_t,ΔD, Vs,O_2) ✪	80-1800	2338			D ✪			(Wd,W,Ta,Tw Cld,Bar)✪	Wa ✪	NODC 200030	
107.4 A-1	TIBERIADES	5.II.-14.XII. 1968	61b	101	(T,S,σ_t,ΔD, Vs,O_2) ✪	20-180	181			D ✪			(Wd,W,Ta, Tw,Cld,Bar) ✪	Wa,Tra) ✪	NODC 200011	
8. COLOMBIA																
108.3 A-11 (Change 31)	A.R.C. SAN ANDRES (Cruise PACIFICO VII) *	(22.X.-2.XI. 1977) *	57b	49 (56)		40-100	16						Cld *	Wa *		08.07-007 *
108.3 A-15	A.R.C. SAN ANDRES (Cruise PACIFICO V)	14.IV.-17.V. 1976	57b	48	T,S,σ_t,δ,ΔD, Vs,O_2,PO_4-P, NO_2-N,NO_3-N, SiO_4-S,pH	40-1800	1878			D			Wd,Ta,Tw, Cld,Bar	Wa,Col, Tra		08.07-005
108.3 A-16	A.R.C. SAN ANDRES (Cruises PACIFICO VI, ERFEN III)	27.IX.-29.X. 1976	57b	96	T,S,σ_t,δ,ΔD, Vs,O_2,PO_4-P, NO_2-N,NO_3-N, SiO_4-Si,pH	20-1900	1980			D			Wd,Ta,Tw, Cld,Bar	Wa,Col, Tra		08.07-007
108.3 A-17	A.R.C. SAN ANDRES (Cruise PACIFICO II)	20.II.-8.III. 1972	57b	44	T,S,σ_t,δ, ΔD,O_2,pH	100-1900	1984			D			Wd,Ta,Tw, Cld,Bar			08.04-014
108.3 A-18	A.R.C. SAN ANDRES (Cruise ERFEN IV)	29.XI.-12.XII. 1978	57b	26	T,S,σ_t,δ, ΔD,Vs,O_2,pH	300-498	448			D			Wd,W,Ta,Tw, Cld,Bar	Wa,Col, Tra		08.07-008
9. DENMARK																
209.1	Vilsundbroen, etc. ‡	1.I.-31.XII. 1974	1,2,3,4	2,440	T,S	20-38	38		Surf-2,555					T,S		09.01-005
209.1	Vilsundbroen, etc. ‡	1.I.-31.XII. 1976	1,2,3,4	2,023	T,S	20-38	38		Surf-2,190					T,S		09.01-006

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WDC - A, OCEANOGRAPHY DATA INFORMATION

COUNTRY CATALOGUE NUMBER (*)	SHIP / FIXED STATION (CRUISE)	PERIOD	REGION (IHB)	TYPES OF OBSERVATIONS											DATA CENTER REFERENCE NUMBER	WDC-A ACC. PUBS. NUMBER
				OCEANOGRAPHIC SERIAL STATIONS				BATHY-THERMO-GRAPH	CURRENTS	BOTTOM TOPO-GRAPHY	BOTTOM COMPO-SITION	BIOLOGICAL	METEOR-OLOGICAL	SEA SURFACE		
				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH									
13. FRANCE																
113.3 D-21	CORIOLIS (Cruise PROSEGERMAN 82)	11.II.-4.III. 1982	61a	16	(T,S,O_2) †	390-500	500			D ✠			(Wd,W,Ta,Tw, Cld,Bar) †	Wa ✠	BNDO 82000811	
113.3 H-1	CAPRICORNE (Cruise LISTAO)	2.VII.-3.VIII. 1981	23a,32a, 35	95	(T,S,O_2) †	370-520	520			D †			(Wd,W,Ta,Tw, Cld,Bar,Vis) ✠		BNDO 81001211	
113.3 H-2	CAPRICORNE (Cruise CEE1-CAP)	9.IV.-5.V. 1982	32a,34	36	(T,S,O_2) †	40-140	140			D †					BNDO 82002511	
113.3 H-3	CAPRICORNE (Cruise ST. HELENE)	11.III.-12.V. 1971	23a,32a	44	(T,S,O_2) †	780-980	1010			D †			(Wd,Ta,Tw, Cld) ✠		BNDO 71003111	
113.3 H-4	CAPRICORNE (Cruises CAP 7210, CAP LOPEZ, EQUATEUR) ‡	3.V.-27.IX. 1972 ‡	23a,32a 34	216 ‡	(T,S,O_2) ✠	100-700	875						(Wd,Ta,Tw, Cld) ✠		BNDO 72001911, 72002011 72002111	
113.3 H-5	CAPRICORNE (Cruises CAP 7302, CAP 7309, UPWELLING, RECIF, EQUATEUR, CAP 7316) ‡	10.I.-25.XI. 1973 ‡	23a,32a, 34	198 ‡	(T,S,O_2) ✠	30-1000	1020			D †			(Wd,Ta,Tw, Cld) ✠		BNDO 73000411 73006411 73006511 73006611 73006711 73008911	
113.3 H-6	CAPRICORNE (Cruises CAP LOPEZ, GATE Phase 2) ‡	30.VI.-10. VIII.1974 ‡	23a,32a, 34	101 ‡	(T,S,O_2) ✠	30-500	900			D †			(Wd,Ta,Tw, Cld) †		BNDO 74000111, 74006811	
113.3 H-7	CAPRICORNE (Cruises ANGOLA 7501, CAP 7502, ANGOLA 7506) ‡	8.I.-10.VIII. 1975 ‡	23a,32b	202 ‡	(T,S,O_2) †	350-550	694			D †			(Wd,Ta,Tw) ✠		BNDO 75000111, 75000511, 75002911	
113.3 H-8	CAPRICORNE (Cruises CAP 7601, PHYCAP 7606, PROCAP 7607) ‡	8.I.-22.VII. 1976 ‡	23a,32a, 34	119 ‡	(T,S,O_2) †	20-550	910			D †			(Wd,Ta,Tw) ✠		BNDO 76001311, 76008011, 76000611	
113.3 H-9	CAPRICORNE (Cruises EOPEA 1, EOPEA 2) ‡	18.I.-3.II., 9.-23.VII. 1977 ‡	23a,32a	61 ‡	(T,S) †	300-500	990			D †			(Wd,Ta,Tw) ✠		BNDO 77000211 77005311	
113.3 H-10	CAPRICORNE Cruises, CAPREA, MOPRE 2) ‡	2.VIII.-19.IX. 1978 ‡	23a,32a, 34	108 ‡	(T,S,O_2) †	375-515	520			D †			(Wd,Ta,Tw, Cld) †		BNDO 78002421 78002312	

NOAA FORM 81-5 (5-76)

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				OCEANOGRAPHIC SERIAL STATIONS				BATHY-THERMO-GRAPH	CURRENTS	BOTTOM TOPO-GRAPHY	BOTTOM COMPO-SITION	BIOLOGICAL	METEOR-OLOGICAL	SEA SURFACE		
				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH									
113.3 H-11	CAPRICORNE (Cruises PEMG SOP 1, CIPREA 2, PEMG SOP 2, CIPREA 3, CIPREA 4) ‡	13.I.-1.XI. 1979 ‡	23a,32a, 34	238 ‡	(T,S,O_2) ✠	50-510	830			D ✠			(Wd,Ta,Tw) ✠		BNDO 79004711, 79001111, 79001811, 79003211, 79006811	
113.3 H-12	CAPRICORNE (Cruise CIPREA 5)	16.-23.I.1980	23a,32a	17	(T,S,O_2) ✠	120-150	150						(Wd,Ta,Tw) ✠		BNDO 80003111	
113.3 H-13	CAPRICORNE (Cruise CEE 2-CAP)	6.-30.VIII. 1968	32a,34	45	(T,S,O_2) ✠	50-100	100			D ✠			(Wd,Ta,Tw) ✠		BNDO 82003411	
113.3 I-1	REINE POKOU Cruise STAT-REF)	19.II.-31.XII. 1965	34	48	(T,S,O_2) ✠	10-400	450			D ✠				(T,S,O_2) -2 ✠	BNDO 65008611	
113.3 J-1	ANDRE NIZERY (Cruise CEE1-NIZ)	9.IV.-5.V. 1982	32a,34	40	(T,S,O_2) ✠	10-45	100			D ✠					BNDO 82002411	
113.3 J-2	ANDRE NIZERY (Cruises CEE2 - NIZ, NICAL 1) ‡	7.-30.VIII., 5.-17.XI.1982 ‡	23a,32a 34	84 ‡	(T,S,O_2) ✠	30-500	531						(Wd,Ta,Tw) ✠		BNDO 82003511 82007311	
113.3 J-3	ANDRE NIZERY (Cruise NICAL 3)	28.IV.-13.V. 1983	23a,32a, 34	35	(T,S,O_2) ✠	450-530	537			D ✠			(Wd,Ta,Tw) ✠		BNDO 83001211	
113.3 K-1	JEAN CHARCOT (Cruise RECIF)	29.X.-11.XI. 1975	23a,32b	51 †	(T,S,O_2) ✠	500-700	700			D ✠			(Wd,Ta,Tw) ✠		BNDO 75005111	
14. GERMANY (FED. REP.)																
114.1 J-16 (Change 23)	METEOR (Cruise 44, CINECA, POLYMODE-EAST)	10.I.-7.III. 1977	23a	56*	(T,O_2,NO_2-N, NO_3-N) *	50-70*	70*									
114.1 J-23 (Change 31)	METEOR (Cruise 54)	7.-25.V.,1.-11.VI.1980	4,6 23a					XTb-206 ✠		D✠ *						
114.1 J-25	METEOR (Cruise 59)	6.-14.XII. 1981	1.2,3,4, 6					XTb-66 ✠		D ✠			(Wd,Ta) ✠		DOD 0613	
114.1 M-27	Ship not identified (Ship of Opportunity) (Cruise 9, IGOSS)	7.II.-10.III. 1979	23a,32b					XTb-34 ✠					Wd ✠		DOD 0630	

NOAA FORM 81-5 15-76)

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				OCEANOGRAPHIC SERIAL STATIONS				BATHY-THERMO-GRAPH	CURRENTS	BOTTOM TOPO-GRAPHY	BOTTOM COMPO-SITION	BIOLOGICAL	METEOR-OLOGICAL	SEA SURFACE		
				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH									
114.1 M-28	Ship not identified (Ship of Opportunity) (Cruises 10, 12-15, IGOSS) ‡	10.V.1981-29.I.1982 ‡	23a,32b					XTb-251 ✠ ‡					Wd ✠		DOD 0630	
114.1 M-29	Ship not identified (Ship of Opportunity) (Cruises 16-22, IGOSS) ‡	27.I.-6.XII. 1982 ‡	23a,32b					XTb-298 ✠ ‡					Wd ✠		DOD 0630	
114.1 M-30	Ship not identified (Ship of Opportunity) (Cruises 24, 25, 26, IGOSS) ‡	1.II.-8.VI. 1983 ‡	23a,32b					XTb-66 ✠ ‡					Wd ✠		DOD 0630	
114.1 Q-3	GAUSS II (Cruise 22/B)	28.VIII.-7. IX.1981	1,4	34	(T,S,σ_t,Vs) ✠	15-50	89			D ✠			(Wd,W,Ta, Cld) ✠	(T,S,σ_t, Vs)-31✠ Wa ✠	DOD 0634	
114.1 Q-4	GAUSS II (Cruises 44, 48)	7.-8.IV.,3.-4.VII.1983	4	50	(T,S,σ_t, Vs) ✠	22-38	38			D ✠					DOD 0634	
114.2 A-5 (Change 21)*	METEOR (Cruise 31, OVERFLOW '73)	11.VIII.-23. IX.1973	3,4,6, 23a		(Cl,O_2,PO_4-P, NO_2-N,NO_3-N, NH_4-N,SiO_4-Si) *											
114.2 E-2	POSEIDON (Cruise 31, JASIN)	20.-27.VIII. 1978	23a					XTb-33 ✠					Wd ✠		DOD 0607	
114.4 C-15	FRIEDRICH HEINCKE (Cruise 160)	15.II.-22.IV. 1979	23a,23b	32	(T,S,σ_t,Vs) ✠	200-7--	700	XTb-59 ✠		D ✠			(Wd,W,Ta, Cld) ✠	T ✠ Wa ✠	DOD 0617	
114.7 A-20	ANTON DOHRN (Cruise 221/2)	22.-29.IX. 1980	23a	55	(T,S,σ_t,Vs) ✠	50-1500	1500			D ✠			(Wd,W,Ta, Cld)✠	Wa ✠	DOD 0601	
114.7 A-21	ANTON DOHRN (Cruises 228, 229/2)	9.-11.VII., 8.-10.VIII., 16.-28.IX. 1981	4,6,23a					(MTb-59 XTb-94) ✠		D ✠			(Wd,W,Ta,Tw, Cld) ✠	T ✠ Wa ✠	DOD 0601	
114.7 A-22	ANTON DOHRN (Cruises 237, 238/2)	8.-10.VII.,9.-10.VIII.16.IX.,1.X.1982	4,21,23a	77	(T,S,σ_t,Vs) ✠	55-150	153	(MTb-77 XTb-68) ✠		D ✠			(Wd,W,Ta,Tw, Cld) ✠	T ✠ Wa ✠	DOD 0601	
114.7 A-23	ANTON DOHRN (Cruise 242, IGFS '83)	4.II.-2.III. 1983	4	99	(T,S,σ_t,Vs) ✠	30-180	188	MTb-100 ✠		D ✠			(Wd,W,Ta,Tw, Cld) ✠	Wa ✠	DOD 0601	
114.7 B-8	WALTHER HERWIG (Cruise 80)	10.-12.VII.	4					XTb-41 ✠		D ✠					DOD 0602	

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				OCEANOGRAPHIC SERIAL STATIONS				BATHY-THERMO-GRAPH	CURRENTS	BOTTOM TOPO-GRAPHY	BOTTOM COMPO-SITION	BIOLOGICAL	METEOR-OLOGICAL	SEA SURFACE	
				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH								
114.7 B-9	WALTHER HERWIG (Cruises 85, 88)	14.VI.-17. VII.,16.-29. XI.1980	15.23a, 23b	44	(T,S,σ_t,Vs) ✠	40-150	188	MTb-30 ✠		D ✠			(Wd,W,Ta, Cld) ✠	Wa ✠	DOD 0602	
114.7 B-10	WALTHER HERWIG (Cruise 90/2)	25.-28.VI. 1981	23a					XTb-61 ✠		D ✠			Wd ✠		DOD 0602	
114.11 B-1	SOLEA (Cruises 78, 81, 84,88) ‡	24.IV.-21.XI. 1979 ‡	1	38 ‡	(T,S,σ_t,Vs O_2) ✠	15-90	132								DOD 0627	
114.11 B-2	SOLEA (Cruises 91,94, 96, 102, 107) ‡	29.I.-12.XI. 1980 ‡	1	41 ‡	(T,S,σ_t,Vs O_2) ✠	20-90	127								DOD 0627	
114.11 B-3	SOLEA (Cruises 112, 115/1, 115/2) ‡	4.II.-3.IV. 1981 ‡	1	22 ‡	(T,S,σ_t,Vs, O_2) ✠	15-100	132								DOD 0627	
114.11 B-4	SOLEA (Cruises 131, 134)	28.-30.I., 8.-18.III. 1982	1	15	(T,S,σ_t,Vs, O_2) ✠	20-100	100								DOD 0627	
114.11 B-5	SOLEA (Cruises 149, 150, 152) ‡	25.I.-17.III. 1983 ‡	1	23	(T,S,σ_t,Vs, O_2) ✠	17-100	111								DOD 0627	
214.1	BORKUMRIFF (LV), etc. ‡	1.I.-31.XII. 1982	1,4 ‡	406	T,S	24-28	28		Surf-12,992 ‡				Wd	T,S Wa		14.02-145
214.1	BORKUMRIFF (LV), etc. ‡	1.I.-31.XII. 1983	1,4 ‡	426	T,S	24-28	28		Surf-12,658 ‡				Wd	T,S Wa		14.02-153
15. GERMANY (DEM. REP.)																
115.2 A-2	Ship not identified (Cruise ICNAF)	20.XI.-13. 1979	15A	61	(T,S,σ_t,δ, ΔD,δ_t) ✠	245-900	932			D ✠				(T,S,σ_t,δ, ΔD,δ_t) ✠	NODC 070253	
19. INDIA																
119.6 A-1	DARSHAK (Cruise MONEX-79, FGGE)	2.V.-31.VII. 1979	39,43	133	T,S,σ_t,Vs	200-3000	3000	MTb-265 XTb-311					Wd,W,Ta,Tw,	Wa		
119.6 B-1	DEEPAK (Cruise MONEX-79, FGGE)	16.V.-23.VII. 1979	39,43	125	T,S,σ_t,Vs	170-1490	1562	MTb-80 XTb-211					Wd,Ta,Tw			

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				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH									
23. ITALY																
123.1 F-1	UMBERTO D'ANCONA (Cruises MAD 01, 02, 03)	12.-13.XII. 1970,25.III.-7.IV.1971,19.-24.III.1972 ‡	28Bg	55 ‡	T,S,σ_t,δ,ΔD, O_2,PO_4-P, NO_2-N,NO_3-N, NH_3-N,SiO_4-Si,pH,Alk	10-250	250			D			Wd,Ta,Tw, Cld,Bar,Hum	(T,S,σ_t, & ΔD)-21 ‡ Wa,Tra		23.03-25
232.2	Bocca di Grado, Bocca di Primero	5.III.1970-22.VI.1971	28Bg	136	T,S,Cl,σ_t,O_2	5,10	10									23.03-020
232.2	Bocca di Primero	12.VII.-21. XII.1976,18. I.-10.X.1977	28Bg	57	T,S,Cl,σ_t, O_2,PO_4-P, NO_2-N,NO_3-N, NH_3-N,SiO_3-Si,pH	7.5	7.5									23.03-021
24. JAPAN																
124.1 B-73	RYOFU MARU (Cruise KER)	20.I.-24.II., 18.IV.-9.V., 4.VI.-20.VII., 4.X.-3.XI.1982	56,57a, 61	213	(T,S,σ_t,ΔD,O_2, PO_4-P,Ptotal, NO_2-N,NO_3-N, Hydrocarbons Heavy Metals NH_3-N,pH) ✠	675-5000	5036	MTb-178 XTb-123 DTb-42	Surf-GEK-211 Subs-43 ‡	D		Phyt-158 Zoo-126 Pigm-166	Wd,W,Ta,Tw, Cld,Bar,Vis	T,S, Wa,Col, Tra	JODC 49821101 49821103 49821104 49821106	24.07-062 24.07-063 24.09-472
124.1 B-74	RYOFU MARU	14.-16.III., 13.-29.IX., 20.XI.-2., 8.-10.XII. 1982	56,57a					MTb-102	Surf-GEK-46					S		24.07-062 24.07-063
124.1 B-75	RYOFU MARU	19.I.-25.II., 16.IV.-10.V., 3.VI.-23.VII., 2.-17.X.1983	50,56, 57a,61a	182	T,S,σ_t,ΔD,O_2, PO_4-P,Ptotal, NO_2-N,NO_3-N, NH_3-N,pH, Heavy Metals Hydrocarbons	100-5000	5300	MTb-351	Surf-GEK-185 Subs-43 ‡	D		Phyt-222 Zoo-137 Pigm-142	Wd,W,Ta,Tw, Cld,Bar,Vis	S Wa,Col Tra		24.07-065 24.07-066
124.1 B-76	RYOFU MARU	9.-19.III., 17.-21.IX., 4.-24.XII. 1983	56,57a					MTb-49	Surf-GEK-42					S		24.07-065 24.07-066
124.1 E-14	KOFU MARU SEIFU MARU	17.X.-3.XI., 10.-28.X. 1982	52	45	T,S,δ_t,ΔD,O_2, PO_4-P,Ptotal, NO_2-N,NO_3-N	50-660	660	MTb-112	Surf-GEK-82 Subs-11 ‡	D		Pigm-45	Wd,W,Ta,Tw, Cld,Bar,Vis	S Wa,Col, Tra		24.07-063
124.1 E-15	KOFU MARU SEIFU MARU	30.IX.-16.X. 1983	52	39	T,S,δ_t,ΔD,O_2, PO_4-P,Ptotal, NO_2-N,NO_3-N	50-650	674	MTb-70	Surf-GEK-69	D		Phyt-25 Zoo-8 Pigm-39	Wd,W,Ta,Tw, Cld,Bar,Vis	S Wa,Col, Tra		24.07-066
124.1 F-21	KEIFU MARU	23.I.-23.XI., 1982 ‡	50,52, 56,57a					MTb-108						S		24.07-062 24.07-063

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				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH								
124.1 F-22	KEIFU MARU	1.II.-27.XI. 1983 ‡	50,52, 56,57a					MTb-144						S	24.07-065 24.07-066
124.2 B-54	OSHORO MARU (Cruises 93-96‡)	13.XI.1982-1.IX.1983 ‡	50,55, 57a,57b, 58	105 ‡	T,S,σ_t,δ,δ_t, ΔD,O_2,PO_4-P, NO_2-N,NO_3-N, NH_4-N	20-1180	1187			D		Phyt-98 FObs-109 ‡	Wd,W,Ta,Tw, Bar	T Wa,Col, Tra	24.04-035
124.2 C-7	HOKUSEI MARU (Cruises 20-23‡)	19.I.-29.VIII. 1983 ‡	57a,57b	161 † ‡	T,S,σ_t,δ δ_t, ΔD,PO_4-P,NO_2-N,NO_3-N	50-980	2915	DTb-36 ‡		D		FObs-65 ‡	Wd,W,Ta,Bar	T Wa,Col, Tra	24.04-035
124.8 D-64	KORU MARU (Cruise KER, 18.-19.IV.only)	5.II.-11.III. 18.IV.-8.V., 22.V.-10.VI. 1982	52,54, 57	83	(T,S,δ_t,ΔD, O_2,PO_4-P, Heavy Metals, Hydrocarbons) ✠	50-1300	3058	MTb-244 DTb-6	Surf-GEK-205	D		Phyt-12 Zoo-22 Pigm-35	Wd,W,Ta,Tw, Cld,Bar	S Wa,Col, Tra	JODC 49821202 (IV.only-6 stas.) 24.07-062 24.09-472
124.8 D-65	KOFU MARU (Cruise KER)	15.VII.-13. VIII.1982	57a	45	(T,S,δ_t,ΔD, O_2,PO_4-P, Heavy Metals, Hydrocarbons) ✠	25-1440	1727	(MTb-76 XTb-7 DTb-19) ✠	Surf-GEK-205 ✠	D ✠		(Phyt-6 Zoo-6 Pigm-20) ✠	(Wd,W,Ta,Tw, Cld,Bar) ✠	S ✠ (Wa,Col Tra) ✠	JODC 49821205 24.07-063 24.09-472
124.8 D-66	KOFU MARU (Cruise KER)	30.IX.-8.X. 1982	57a	13	(T,S,δ_t,ΔD, O_2,PO_4-P, NO_2-N,pH, Heavy Metals, Hydrocarbons) ✠	30-1250	1255	(MTb-28 DTb-10) ✠	Surf-GEK-22 ✠	D ✠		(Phyt-6 Zoo-6 Pigm-6) ✠	(Wd,W,Ta,Tw, Cld,Bar) ✠	S ✠ (Wa,Col, Tra) ✠	JODC 49821206 24.07-063 24.09-472
124.8 D-67	KOFU MARU	7.II.-10.III. 21.IV.-11.V., 5.-27.VIII., 7.-9.XI.1983	52,54, 57a	73	T,S,δ_t,ΔD,O_2, PO_4-P,Ptotal, NO_2-N,NO_3-N, NH_3-N,pH, Heavy Metals, Hydrocarbons	30-2600	3021	MTb-229	Surf-GEK-186 Subs-8 ‡	D		Phyt-26 Zoo-26 Pigm-26	Wd,W,Ta,Tw, Cld,Bar,Vis	S Wa,Col Tra	24.07-065 24.07-066
124.8 D-68	KOFU MARU (Cruise KER)	28.VI.-24.VII. 1983	57a	28	T,S,δ_t,ΔD,O_2, PO_4-P,Ptotal, NO_2-N,NO_3-N, NH_3-N,pH, Heavy Metals, Hydrocarbons	870-2700	6294	MTb-87	Surf-GEK-86 Subs-1 ‡	D		Phyt-6 Zoo-6 Pigm-9	Wd,W,Ta,Tw, Cld,Bar,Vis	S Wa,Col, Tra	24.07-066
124.9 A-80	SHUMPU MARU (Cruise KER)	6.II.-6.III., 20.IV.-14.V., 3.-26.VII.,27.-IX.-19.X.1982	53,56	187	(T,S,δ_t,ΔD, O_2,PO_4-P, Ptotal,NO_2-N, NO_3-N,NH_3-N, pH,Heavy Metals, Hydrocarbons) ✠	10-1350 3200-3650	3766	(XTb-148 DTb-246) ✠	Surf-GEK-335 ✠	D ✠		(Phyt-73 Zoo-39 Pigm-141)✠	(Wd,W,Ta,Tw, Cld,Bar,Vis) ✠	(T,S) ✠ (Wa,Col, Tra) ✠	JODC 49821301 49821302 49821303 49821305 24.07-062 24.07-063 24.09-472

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WDC - A, OCEANOGRAPHY DATA INFORMATION

COUNTRY CATALOGUE NUMBER (*)	SHIP/FIXED STATION (CRUISE)	PERIOD	REGION (IHB)	TYPES OF OBSERVATIONS											DATA CENTER REFERENCE NUMBER	WDC-A ACC. PUBS. NUMBER
				OCEANOGRAPHIC SERIAL STATIONS				BATHY-THERMO-GRAPH	CURRENTS	BOTTOM TOPO-GRAPHY	BOTTOM COMPO-SITION	BIOLOGICAL	METEOR-OLOGICAL	SEA SURFACE		
				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH									
124.9 A-81	SHUMPU MARU	24.-30.VIII. 1982	53	46	T,S,δ_t,ΔD,O_2, PO_4-P,NO_2-N, NO_3-N,pH	10-50	50		Subs-4 ‡	D		Phyt-35 Zoo-14 Pigm-46	Wd,W,Ta,Tw, Cld,Bar,Vis	Wa,Col, Tra		24.07-063
124.9 A-82	SHUMPU MARU (Cruise KER)	7.II.-1.III., 15.IV.-11.V., 4.-28.VII.,29. IX.-22.X.1983	50,56, 57a	167	T,S,δ_t,ΔD,O_2, PO_4-P,Ptotal, NO_2-N,NO_3-N, NH_3-N,pH, Heavy Metals, Hydrocarbons	10-3500	3813	MTb-380	Surf-GEK -324	D		Phyt-73 Zoo-53 Pigm-123	Wd,W,Ta,Tw, Cld,Bar,Vis	S Wa,Col, Tra		24.07-065 24.07-066
124.9 A-83	SHUMPU MARU	26.-31.VIII. 1983	53	52	T,S,δ_t,ΔD,O_2, PO_4-P,NO_2-N, NO_3-N,pH	10-50	50		Subs-9 ‡	D		Phyt-56	Wd,W,Ta,Tw, Cld,Bar,Vis	Wa,Col, Tra		24.07-066
124.10 D-73	CHOFU MARU (Cruise KER)	22.I.-15.II., 23.IV.-17.V., 12.VII.-6. VIII.,27.IX.- 19.X.1982	50	128	(T,S,δ_t,ΔD,O_2 PO_4-P,Ptotal, NO_2-N,NO_3-N, NH_3-N,pH, Heavy Metals, Hydrocarbons) ✠	40-1400	1942	(MTb-24 XTb-80 DTb-349) ✠	Surf-GEK -139 ✠	D ✠		(Phyt-36 Zoo-36 Pigm-42) ✠	(Wd,W,Ta,Tw, Cld,Bar,Vis) ✠	S ✠ (Wa,Col, Tra) ✠	JODC 49821401 49821402 49821403 49821404	24.07-062 24.07-063 24.09-472
124.10 D-74	CHOFU MARU (Cruise KER)	22.I.-15.II., 22.IV.-15.V., 9.VII.-5.VIII. 30.IX.-25.X., 1983	50,52	158	T,S,δ_t,ΔD,O_2, Heavy Metals, Hydrocarbons	50-1000	2086	MTb-371	Surf-GEK -196	D		Phyt-33 Zoo-29 Pigm-56	Wd,W,Ta,Tw, Cld,Bar,Vis	S Wa,Col, Tra		24.07-065 24.07-066
124.11 D-58	SEIFU MARU (Cruise KER)	5.-27.II.,7.V. -4.VI.,28.IX. -5.X.1982	52	118	(T,S,δ_t,ΔD, PO_4-P,Ptotal, NO_2-N,NO_3-N, Heavy Metals, Hydrocarbons) ✠	10-650	2869	(MTb-195 DTb-33) ✠	Surf-GEK -219 ✠	D ✠		(Phyt-28, Zoo-25, Pigm-118)✠	(Wd,W,Ta,Tw, Cld,Bar,Vis) ✠	S ✠ (Wa,Col, Tra) ✠	JODC 49821502 49821504	24.07-062 24.07-063 24.09-472
124.11 D-59	SEIFU MARU (Cruise KER)	3.VII.-6.VIII. 1982	52	61	(T,S,δ_t,ΔD,O_2 PO_4-P,NO_2-N, NO_3-N,Heavy Metals,Hydro-carbons) ✠	50-700	2809	(MTb-119 DTb-22) ✠	Surf-GEK -127 ✠	D ✠		(Phyt-9 Zoo-9, Pigm-40) ✠	(Wd,W,Ta,Tw, Cld,Bar,Vis) ✠	S ✠ (Wa,Col, Tra) ✠	JODC 49821503	24.07-063 24.09-472
124.11 D-60	SEIFU MARU (Cruise KER)	3.II.-10.III. 1983	52	43	T,S,δ_t,ΔD,O_2, PO_4-P,NO_2-N, NO_3-N,Heavy Metals,Hydro-carbons	50-1600	2851	MTb-112	Surf-GEK -104	D		Phyt-9 Zoo-8 Pigm-37	Wd,W,Ta,Tw, Cld,Bar,Vis	S Wa,Col, Tra		24.07-065
124.11 D-61	SEIFU MARU	9.-29.V.,5. VII.-6.VIII., 21.-24.IX., 25.-27.X.1983	52	124	T,S,δ_t,ΔD,O_2, PO_4-P,NO_2-N NO_3-N,Heavy Metals,Hydro-carbons	50-2400	2556	MTb-271	Surf-GEK-257	D		Phyt-27 Zoo-27 Pigm-103	Wd,W,Ta,Tw, Cld,Bar,Vis	S Wa,Col Tra		24.07-065 24.07-066
124.13 B-20	MEIYO, etc. ‡	3.I.-30.XII. 1982	50,52, 54,56 57a					MTb-22 XTb-728 ‡	Surf-GEK-2,956 ‡				Wd,Ta	T		24.10-039

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				OCEANOGRAPHIC SERIAL STATIONS				BATHY-THERMO-GRAPH	CURRENTS	BOTTOM TOPO-GRAPHY	BOTTOM COMPO-SITION	BIOLOGICAL	METEOR-OLOGICAL	SEA SURFACE	
				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH								
124.13 E-60	TAKUYO (Cruise KER)	7.-30.V.,21. VIII.-13.IX. 1982	56	51	(T,S,σ_t,δ,δ_t, ΔD,Vs,O_2,P, Si,pH) ⊕	500-4300	4324	(XTb-125 DTb-51) ⊕	Surf-GEK-235 ⊕	D ⊕			(Wd,W,Ta,Tw, Cld,Vis) ⊕	(Wa,Col) ⊕	JODC 49820007 49820014	24.09-472 24.10-039
124.13 E-61	TAKUYO	11.I.-21.XII. 1982 ‡	52,56, 57a					XTb-347	Surf-GEK-721				Wd,Ta	T		24.10-039
124.13 GGG-11	SHOYO (Cruise KER)	4.-22.III., 9.-30.XI. 1982	56	54	(T,S,σ_t,δ,δ_t, ΔD,Vs,O_2,P, Si,pH) ⊕	740-4300	4329	(XTb-110 DTb-52) ⊕	Surf-GEK-179 ⊕	D ⊕			(Wd,W,Ta,Tw, Cld,Bar,Vis) ⊕	T ⊕ (Wa,Col) ⊕	JODC 49820003 49820018	24.09-472 24.10-039
124.13 GGG-12	SHOYO (Cruise KER)	26.II.-12. III.1983	56	35	(T,S,σ_t,δ,δ_t, ΔD,Vs,O_2,P, Si,pH) ⊕	1000-4370	4377			D ⊕			(Wd,W,Ta,Tw, Cld,Bar,Vis) ⊕	(Wa,Col) ⊕	JODC 49830004	24.09-472
124.13 GGG-13	SHOYO	11.IV.-5.,24. V.-29.VI.,20. -21.VII.,13.-31.VIII.1982	50,56, 57a					XTb-24	Surf-GEK-79				Wd,Ta	T		24.10-039
124.13 KKK-14	FUJI (Cruise JARE-22)	9.II.-5.III. 1981	45c,SO									Phyt-45				24.22-007
124.13 KKK-15	FUJI (Cruise JARE-23)	26.XI.1981-17.IV.1982	45a,45b, 45c,45d, SO	7	T,S,σ_t,ΔD,O_2, PO_4-P,NO_2-N, NO_3-N,NH_3-N, pH	2700-4400	4499	MTb-62 XTb-66	Surf-GEK-58	D			Wd,W,Ta,Bar, Hum	T,S,O_2, PO_4-P, NO_2-N, NO_3-N, NH_4-N, SiO_4-Si, pH)-144 Wa		24.22-008
124.19 A-12	YOKO MARU (Cruise KER)	27.V.-5.VI., 7.-14.XII. 1982	50	61 † ‡	(T,S,σ_t,δ,δ_t, ΔD,Vs) ⊕	25-800	800	DTb-14 ⊕	Subs-26 ⊕	D ⊕			(Wd,W,Ta,Cld Bar) ⊕	T ⊕	JODC 49822605 49822612	24.09-472
124.19 A-13	YOKO MARU (Cruise KER)	20.-23.II. 1983	50					DTb-22 ⊕	Subs-22 ⊕				(Wd,Ta) ⊕	T ⊕	JODC 49832602	24.09-472
124.21 B-4	SHOYO MARU (Cruise KER)	24.X.-3.XI. 1982	57a	20 †	T ⊕	200-1000	1000	DTb-51 ⊕	Surf-GEK-70 ⊕				(Wd,Ta) ⊕	T ⊕	JODC 49822315	24.09-472
124.21 E-2	WAKATAKA MARU (Cruise KER)	26.V.-6.VI., 13.-25.VII. 1982	57a	51 † ‡	(T,S,σ_t,δ,δ_t, ΔD,Vs) ⊕	50-1000	1000	(XTb-11 DTb-48) ⊕	Surf-GEK-104 ⊕				(Wd,W,Ta, Cld) ⊕	T ⊕	JODC 49822309 49822311	24.09-472
124.21 E-3	WAKATAKA MARU (Cruise KER)	20.-27.III. 1983	57a	11 †	(T,S,σ_t,δ,δ_t, ΔD,Vs) ⊕	50-1100	1155	DTb-38 ⊕	Surf-GEK-34 ⊕				(Wd,W,Ta, Cld) ⊕	T ⊕	JODC 49832302	24.09-472
124.21 F-2	SHUNYO MARU (Cruise KER)	19.IV.-6.V., 15.-26.V.1982	57a	15	(T,S,σ_t,δ,δ_t, ΔD,Vs) ⊕	300-980	993	(XTb-44 DTb-148 ⊕	Surf-GEK-123 ⊕				(Wd,W,Ta, Cld) ⊕	T ⊕	JODC 49822305 49822306	24.09-472

NOAA FORM 81-5 (5-76)

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				OCEANOGRAPHIC SERIAL STATIONS				BATHY-THERMO-GRAPH	CURRENTS	BOTTOM TOPO-GRAPHY	BOTTOM COMPO-SITION	BIOLOGICAL	METEOR-OLOGICAL	SEA SURFACE		
				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH									
124.21 G-1	HOKKO MARU (Cruise KER)	5.-15.II.1983	56,57a					(XTB-31 DTb-16) ✠	Surf-GEK-10 ✠				(Wd,Ta) ✠	T ✠	JODC 49832301	24.09-472
124.23 E-5	SHUNYO MARU (Cruise KER)	7.-18.VIII. 1982	56	59	(T,S,σ_t,δ,δ_t ΔD,Vs) ✠	100-800	837		Surf-GEK-63 ✠	D ✠			(Wd,W,Ta,Cld Bar) ✠	T ✠ (Wa,Col)✠	JODC 49822502	24.09-472
124.23 E-6	SHUNYO MARU (Cruise KER)	31.I.-16.II. 1983	50,56					DTb-80 ✠	Surf-GEK-73 ✠				(Wd,Ta) ✠	T ✠	JODC 49832501	24.09-472
124.24 B-34	HAKUHO MARU (Cruise KH-81-5, WESTPAC)	9.IX.-18.XI. 1981	48a,48b, 49,56	28	T,S,σ_t,ΔD,O_2 PO_4-P,NO_2-N, NO_3-N,SiO_2-Si,pH	1400-4000	4000			D		Zoo-28 Pigm-22 Eggs-37 Micr-11	Wd,W,Ta	T,S,NO_2, NO_3 Wa		24.13-051
124.24 B-35	HAKUHO MARU (Cruise KH-77-3, Lyra Expedition)	16.-31.V.1975	57a	16	T,S,σ_t,PT,O_2 PO_4,NO_3,Si, pH	1100-5800	5974			D						24.13-053
124.24 B-36	HAKUHO MARU (Cruise KH-77-3, Pegasus Expedition)	16.IX.-2.X. 1977	50,52,56	16	T,S,σ_t,O_2, PO_4,NO_3,Si, pH	75-4100	4159			D						24.13-054
124.28 B-6	AGS No. 2	5.II.-6.VII. 1982	52	13	T,S,σ_t,δ,δ_t, ΔD,Vs	30-115	180			D			Wd,W,Ta,Cld Bar,Vis			24.21-008
124.28 C-5	AGS No. 3	20.II.-11.IX. 1982	56	20	T,S,σ_t,δ,δ_t, ΔD,Vs	350-950	1050						Wd,W,Ta,Cld Bar,Vis	Col,Tra		24.21-008
124.28 D-5	AGS No. 4	22.II.-4.XII. 1982	52	17	T	500-800	800			D			Wd,W,Ta,Cld Bar,Vis	Col,Tra		24.21-008
124.28 F-4	AGS No. 5	15.II.-15.XII. 1982	56,57a	36	T,S,σ_t,δ,δ_t, ΔD,V_s	390-780	788			D			Wd,W,Ta,Cld Bar.Vis	Col,Tra		24.21-008
124.28 H-1	SUMA	23.VII.1982	56	1	T,S,σ_t,δ,δ_t, ΔD,V_s	3946	3946			D			Wd,W,Ta,Cld Bar,Vis	Col,Tra		24.21-008
224.1 A-7	Ocean Data Buoys Nos. 4,6,7,8	9.VI.1982-22.VI.1983	50,52,56, 57a						Surf-171 ‡				Wd,Ta,Tw, Bar,Sol Rad	T ‡ Wa		24.07-064
26. NETHERLANDS																
226.2 C-10 (Change 31*)	CUMULUS *	22.I.-31.XII. 1980;2.III.-14.XII.1981														
27. NEW ZEALAND																
127.1 G-1	TANGAROA (Cruises 1010, 1041, 1047, 1050, 1055)	23.VIII.1973-14.I.1977 ‡	61a,63	116 ‡	T,S,σ_t,ΔD	50-2800	3428			D						27.01-002

NOAA FORM 81-5 (5-76)

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				OCEANOGRAPHIC SERIAL STATIONS				BATHY-THERMO-GRAPH	CURRENTS	BOTTOM TOPO-GRAPHY	BOTTOM COMPO-SITION	BIOLOGICAL	METEOR-OLOGICAL	SEA SURFACE		
				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH									
127.1 C-2	TANGAROA (Cruises 1067, 1069, 1070, 1071, 1078)	25.IV.1974-21.VIII.1978 ‡	61a,63	290 ‡	T,S,σ_t,ΔD,O_2	20-2800	2845			D		(Zoo-46 Pigm-69 C14-71) ‡				27.01-003
30. PERU																
130.1 C-16 (Change 5*)	UNANUE (Cruise 6708, EASTROPAC)	24.VIII.-24.IX.1967	61b	95 *	(T,S,σ_t,ΔD, Vs,O_2,PO_4, NO_2,SiO_3) ⊕ *	50-2800 *	2880 *								NODC 650029 *	
130.1 C-22	UNANUE (Cruises 6609, and 6611)	31.VIII.-1.X. 19.XI.-11.XII 1966	61b	154	(T,S,σ_t,ΔD, Vs,O_2) ⊕	50-1180	1196			D ⊕			(Wd,W,Ta, Tw,Cld,Bar) ⊕		NODC 650044 650051	
130.1 C-23	UNANUE (Cruise 6707)	5.II.-3.III., 19.V.-6.VI. 1967	61b	113	(T,S,σ_t,ΔD, Vs,O_2,PO_4, NO_2,SiO_3) ⊕	50-1190	1195			D ⊕			(Wd,W,Ta, Tw,Cld,Bar) ⊕		NODC 650013 650014	
130.1 C-24	UNANUE (Cruise 6802)	6.II.-5.III. 1968	61b	59	(T,S,σ_t,ΔD, Vs,O_2,PO_4, NO_3,SiO_3)	30-975	990			D ⊕			(Wd,Ta,Tw, Cld,Bar) ⊕		NODC 650030	
130.1 C-25	UNANUE (Cruise 7011)	23.XI.-8.XII. 1970	61b	57	(T,S,σ_t,ΔD, Vs,O_2) ⊕	30-320	321			D ⊕			(Wd,Ta,Tw, Cld,Bar) ⊕		NODC 650054	
130.1 C-26	UNANUE (Cruises 7105, 7108, 7111)	23.V.-26.XI. 1971 ‡	61b	106	(T,S,σ_t,ΔD, Vs,O_2) ⊕	75-1000	1066			D ⊕			(Wd,W,Ta, Tw,Cld,Bar) ⊕		NODC 650055 650061 650056	
130.1 C-27	UNANUE (Cruises 7202, 7203, 7204, 7206, 7207, 7211, 7212)	16.II.-12.XII 1972 ‡	61b	142	(T,S,σ_t,ΔD, Vs,O_2,PO_4, NO_3,SiO_3) ⊕	30-360	497			D ⊕			(Wd,W,Ta, Tw,Cld,Bar) ⊕		NODC 650062 650058 650059 650065 thru 650068	
130.1 C-28	UNANUE (Cruise 7302-03)	23.II.-16.III 1973	61b	48	(T,S,σ_t,ΔD, Vs,O_2,PO_4, NO_2,NO_3, SiO_3) ⊕	50-600	615			D ⊕			(Wd,Ta,Tw, Cld,Bar) ⊕		NODC 650071	
130.1 C-29	UNANUE (Cruise 7511)	7.XI.-3.XII. 1975	61b	56	(T,S,σ_t,ΔD, Vs,O_2,PO_4, NO_2,NO_3, SiO_3) ⊕	30-200	246			D ⊕			(Wd,Ta,Tw, Cld,Bar) ⊕		NODC 650083	
130.1 C-30	UNANUE (Cruises 7608, 7612)	11.-30.VIII., 4.-30.XII. 1976	61b	131	(T,S,σ_t,ΔD, Vs,O_2,PO_4, NO_2,NO_3, SiO_3) ⊕	30-900	952			D ⊕			(Wd,Ta,Tw, Cld,Bar) ⊕		NODC 650078 650079	

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WDC - A, OCEANOGRAPHY DATA INFORMATION

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				OCEANOGRAPHIC SERIAL STATIONS				BATHY-THERMO-GRAPH	CURRENTS	BOTTOM TOPO-GRAPHY	BOTTOM COMPO-SITION	BIOLOGICAL	METEOR-OLOGICAL	SEA SURFACE		
				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH									
130.1 D-5	SNP-1 (Cruises 6902, 6906 thru 6908, 6910 thru 6912)	25.I.-20.XII. 1969 ‡	61b	128	(T,S,σ_t,ΔD, Vs,O_2) ✠	30-325, 880-1000	1018			D ✠			(Wd,Cld, Bar) ✠	Tra ✠	NODC 650037 thru 650043	
130.1 D-6	SNP-1 (Cruises 7005, 7006, 7010)	14.-31.V.,24. -25.VI.,15.X. -5.XI.1970	61b	36	(T,S,σ_t,ΔD, Vs,O_2) ✠	40-200	213			D ✠			(Wd,Cld, Bar) ✠		NODC 650049 650050 650053	
130.1 D-7	SNP-1 (Cruises 7104, 7111)	7.IV.-5.V., 21.XI.-14.XII 1971	61b	68	(T,S,σ_t,ΔD, Vs,O_2) ✠	10-250	304			D ✠			(Wd,Cld, Bar) ✠	Tra ✠	NODC 650063 650057	
130.1 D-8	SNP-1 (Cruises 7204, 7205)	27.IV.-16.V. 1972	61b	42	(T,S,σ_t,ΔD, Vs,O_2) ✠	40-175	265			D ✠			(Wd,Ta,Tw, Cld,Bar) ✠	Tra ✠	NODC 650060 650064	
130.1 D-9	SNP-1 (Cruise 7301)	10.-11.I.1973	61b	7	(T,S,σ_t,Vs, O_2) ✠	74,99	99			D ✠			(Wd,Cld, Bar) ✠	Tra ✠	NODC 650069	
130.1 D-10	SNP-1 (Cruises 7402, 7403, 7405)	9.-25.II.,7.-16.III.,24.V. -14.VI.1974	61b	141	(T,S,σ_t,ΔD, Vs,O_2,PO_4, NO_2,NO_3, SiO_3) ✠	10-290	297			D ✠			(Wd,Cld, Bar) ✠	Tra ✠	NODC 650070 650072 650073	
130.1 D-11	SNP-1 (Cruise 7504)	9.-26.IV.1975	61b	30	(T,S,σ_t,ΔD, Vs,O_2,PO_4, NO_2,NO_3, SiO_3) ✠	50-300	453			D ✠			(Wd,Cld, Bar) ✠	Tra ✠	NODC 650074	
33. PORTUGAL																
133.1 D-6	ALEMEIDA CARVALHO (Cruises MALAC VIII, IX, X) ‡	29.V.-22.VII. 1973	23a					MTb-37 XTb-66 ‡								33.01-017
133.1 D-7	ALEMEIDA CARVALHO (Cruise CECIR VI)	28.V.-4.VI. 1980	23a	43	T,S,σ_t,δ,Vs, PT,O_2,PO_4, NO_3,Si	30-3000	4254	MB-20	Subs-15	D			Wd,Ta,Cld, Bar			33.01-018
133.1 D-8	ALEMEIDA CARVALHO (Cruise CECIR VII)	9.-25.IV.1981	23a	20	T,S,σ_t,δ,Vs, PT,O_2,PO_4, NO_3,Si	1500-3000	3163	MB-20	Subs-28	D			Wd,Ta,Cld, Bar			33.01-019
133.1 E-1	Ship not identified (Cruises MALAC I thru VI)	26.V.1966-7. VII.1972 ‡	23a					MTb-400 XTb-86								33.01-017
133.1 F-1	AFONSO DE ALBUQUERQUE (Cruise CECIR V)	16.-21.I.1979	23a	18	T,S,σ_t,δ,Vs, PT,O_2,NO2, NO_3,NH_4,Si	50-1700	1793	XTB-19	Subs-15	D			Wd,W,Ta,Tw, Cld,Bar			33.01-016

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				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH									
34. SPAIN																
134.2 B-2	CORNIDE DE SAAVEDRA (Cruise MEDITERRANEO 1)	6.X.-2.XI. 1976	28A, 28Ab, 28Ac	45	T,S,σ_t,O_2, PO_4,NO_2,NO_3, NH_4,SiO_4	50-1400	1500	XTB-45		D		Zoo-66 Sest-32 Pigm-42 Micr-14	Wd,Ta,Cld, Bar,Hum	Wa,Tra		34.02-005
35. SWEDEN																
135.1 E-30	THETIS	7.-10.III.,17 VIII.,9.IX., 3.-26.X.1983	2,3	54	T,S,σ_t,O_2, PO_4-P,Ptotal Ntotal	10-200	200			D			Wd,W,Ta, Cld,Bar	(T,S,σ_t, O_2,PO_4, Ptotal)-1 Wa,Tra, Ice		35.03-046
135.1 E-31	THETIS	16.-23.II. 1984	2,3	35	T,S,σ_t,O_2, PO_4-P,Ptotal	25-200	225			D			Wd,W,Ta, Cld,Bar	Wa,Tra, Ice		35.03-048
135.1 G-17	ARGOS	12.-24.I.,7.-15.III.,12.-21.IV.,2.V.-15.V.1983	1,1a, 2,3	204 † ‡	T,S,σ_t,O_2, PO_4-P,Ptotal NO_2-N,NO_3-N, NH_4-N,Ntotal SiO_2,H_2S,pH Alk	15-400	440			D			Wd,W,Ta, Cld,Bar	(T,S,σ_t, O_2)-4 ‡ Wa,Tra, Ice		35.03-045
135.1 G-18	ARGOS	12.IX.-27.X., 6.-24.XI.,5.-11.XII.1983	1,1a, 2,3	239† ‡	T,S,σ_t,O_2, PO_4-P,Ptotal NO_2-N,NO_3-N, NH_4-N,Ntotal SiO_2,H_2S,pH, Alk	10-400	440			D			Wd,W,Ta, Cld,Bar	Wa,Tra, Ice		35.03-047
36. SOUTH AFRICA																
136.1 C-3	MEIRING NAUDE	23.-30.V.1975	45a							D ⊕			(Wd,Ta,Tw, ⊕	T-50 ⊕	NODC 917021	
37. U.S.S.R.																
137.10 II-3	ARGUS (NAFO)	3.-29.X.1980	23b	22	(T,S,σ_t,δ, ΔD,Vs) ⊕	40-200	200			D ⊕				(T,S,σ_t, δ,ΔD,Vs) -96 ⊕	NODC 900774	
137.11 B-3	TOPSEDA (Cruise 37)	7.V.-4.VII. 1962	15,15A, 23a,23b	236	T,S,O_2	75-1000	1000			D						
137.11 B-4	TOPSEDA (Cruise 38)	19.VIII.-21.X 1962	15,15A, 23b	239	T,S	55-1000	1000			D						
137.11 D-7	SEVASTOPOL	16.III.-17.V. 1967	23a,23b	284	T,S,O_2	65-1800	1885			D						

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				OCEANOGRAPHIC SERIAL STATIONS				BATHY-THERMO-GRAPH	CURRENTS	BOTTOM TOPO-GRAPHY	BOTTOM COMPO-SITION	BIOLOGICAL	METEOR-OLOGICAL	SEA SURFACE		
				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH									
137.11 D-8	SEVASTOPOL	10.V.-16.VI. 1966	23b	182	T,S,O_2	50-900	1109			D				(T,S,O_2) -5		
137.11 L-5	PERSEI III (NAFO)	30.V.-28.VIII 1978	15A,23b	306	(T,S, σ_t, δ, ΔD,Vs) ✠	50-700	937			D ✠			(Wd,Ta, Bar) ✠		NODC 900750	
137.13 B-9	PELAMIDA	15.VI.-16.IX. 1965	57a	103	T	50-200	200			D						
137.13 H-2	TAMANGO	6.II.-17.VII. 1968	56,57a, 61a,64, 65	204	T,S,O_2	500	500			D						
137.13 I-4	OGON	22.-29.VI.,15. -24.VII.,30. VIII.-7.,18.- 28.IX.,9.-12. X.1966	57b	61	T,S,O_2	50-1000	1000			D						
137.13 I-5	OGON	4.II.-7.,20.- 28.III.,10.- 24.IV.,6.V.- 3.VI.1970	57b	256	T,S,O_2	100-2500	2977			D						
137.13 I-6	OGON (Cruise 33)	12.VIII.-13. XII.1965	57b	137	T,S	120-1000	1000			D						
137.13 I-7	OGON (Cruise 35)	8.II.-29.IV. 1967	57b	70	T,S	65-500	707			D						
137.13 I-8	OGON (Cruise 37)	1.-27.VII. 1968	57b	24	T,S,O_2	75-1000	1000			D						
137.13 T-1	KALMAR	27.II.-12.VII 1965	55,57b, 58	236	T	20-700	730			D						
137.13 U-1	Ship not identi-fied	5.IV.-17.VI. 1967	57b	112	T,S,O_2	75-1000	1000			D						
137.21 E-3	EKLIPTIKA (NAFO)	24.IX.-12.X. 1982	23b	14	(T,S,σ_t,δ, ΔD,Vs) ✠	80-200	206			D ✠				(T,S,σ_t,δ, ΔD,Vs)-77 ✠	NODC 900775	
38. UNITED KINGDOM																
138.5 B-17	DISCOVERY (Cruise 130	22.-29.VII. 1982	23a	34	T,S,σ_t,δ,ΔD, Vs,PT^t	4200-5600	5600									38.14-257
39. UNITED STATES																
139.1 C-41	ATLANTIS II (Cruise 102, JASIN)	27.VII.-4.IX. 1978	23a	74	T,S,σ_t,PT	875-1400	2253									39.21-212

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				OCEANOGRAPHIC SERIAL STATIONS				BATHY-THERMO-GRAPH	CURRENTS	BOTTOM TOPO-GRAPHY	BOTTOM COMPO-SITION	BIOLOGICAL	METEOR-OLOGICAL	SEA SURFACE		
				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH									
139.3 J-15	SILAS BENT	1.-26. IX.1975	58	127	(T,S,σ_t,δ,ΔD, Vs) ✠	40-1500	1500			D ✠					NODC 319023	
139.4 B-15	T. G. THOMPSON (Cruise 1, OPERCAT)	14.X.-7.XII. 1965	23b,27, 57b	72	(T,S,σ_t,δ,PE, O_2,PO_4,NO_2, NH_3-N,CO_2, pH,Alk) ✠	30-3600	8156			D ✠		Pigm-17 C14-17	(Wd,W,Ta,Tw, Cld,Bar) ✠	Wa ✠	NODC 311054	39.20-073
139.5 B-15	TRIDENT (Cruises TR-155, 156, 157, GATE)	5.VII.-15. IX. 1974 ‡	23a,32b	120 † ‡	T,S,σ_t,ΔD,PT, O_2,Si	680-1560	2970							T,S		39.44-059
139.8 D-38 (CAT. OF DATA*)	BLACK DOUGLAS, HORIZON (Cruises 6103, 6104-5, 6105)	8.III.-29.V. 1961	57b	5 * (119)												
139.8 D-81	ALEXANDER AGASSIZ, DAVID STARR JORDAN (Cruise CalCOFI 7412)	26.XI.-9.XII., 26.XI.-18.XII 1974	57b	230 † ‡	T,S,σ_t,δ_t,ΔD, O_2	50-1000	1000			D			Wd,W	Wa		39.01-269
139.8 D-82	ALEXANDER AGASSIZ, DAVID STARR JORDAN (Cruises CalCOFI 7501, 7503)	9.I.-28.III. 1975 ‡	57b	401 † ‡	T,S,σ_t,δ_t,ΔD, O_2	10-1000	1075			D			Wd,W	Wa		39.01-269
139.8 D-83	DAVID STARR JORDAN (Cruisea CalCOFI 7505, 7506, 7509, 7512)	10.V.-13.XII. 1975 ‡	57b	354 † ‡	T,S,σ_t,δ_t,ΔD, O_2	15-1000	1052			D			Wd,W	Wa		39.01-270
139.8 D-84	ALEXANDER AGASSIZ, DAVID STARR JORDAN (Cruises CalCOFI 7507, 7510)	24.VI.-14.XI. 1975 ‡	57b	505 † ‡	T,S,σ_t,δ_t,ΔD, O_2	15-1000	1082			D			Wd,W	Wa		39.01-270
139.8 S-3	ALPHA HELIX	11.-13.VI., 17.VI.-2.VII. 7.-25.VII. 1980	55,58	127 †	(T,S,σ_t,ΔD, Vs) ✠	10-200	600			D ✠					NODC 319242 319241 319243	
139.8 S-4	ALPHA HELIX	23.II.-16.XI. 1981 ‡	12,55, 57b,58	340 † ‡	(T,S,σ_t,ΔD, Vs) ✠	30-1400	1500			D ✠					NODC 319174 thru 319178	
139.8 V-1	NEW HORIZON (Cruise CalCOFI 8401)	5.-24.I.1984	57b	88	T,S,σ_t,δ_t,ΔD, PT,O_2,PO_4, NO_2,NO_3,SiO_3	40-600	628			D		Zoo-114 PrPr-20 Pigm-93	Wd,W,Ta,Tw, Cld,Bar	T,S,etc.‡ Wa		39.01-271
139.8 V-2	NEW HORIZON (Cruise CalCOFI 8402-3)	9.II.-2.III. 1984	57b	81	T,S,σ_t,δ_t,ΔD, PT,O_2,PO_4, NO_2,NO_3,SiO_3	500-600	631			D		Zoo-102 PrPr-20 Pigm-81	Wd,W,Ta,Tw, Cld,Bar	Wa		39.01-278

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				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH									
139.8 V-3	NEW HORIZON (Cruises CalCOFI 8404, 8406)	9.-30.IV.,3.-23.VI.1984	57b	179	T,S,σ_t,δ_t,ΔD PT,O_2,PO_4, NO_2,NO_3,SiO_3	30-625	662			D			Wd,W,Ta,Tw, Cld,Bar	(T,S,σ_t, δ_t,ΔD,PT, O_2,PO_4, NO_2,NO_3, SiO_3)-8 ‡ Wa,Tra		39.01-279
139.10 A-8	HUGH M. SMITH (Cruise 35, EQUAPAC)	2.VIII.-5.X. 1956	57b,61a, 61b	91	T,S,δ_t,O_2, PO_4-P	1000-3500	3552	MB-78		D		C14-83 FObs-6 Surf	Wd,W,Ta,Tw, Cld,Bar,Vis	S Wa		39.15-374
139.10 A-9	HUGH M. SMITH (Cruise 38)	13.I.-25.III. 1957	57b,61b, 61b	56	T,S,δ_t,O_2, PO_4-P	600-1400	1432					Zoo-114 C14-47 FObs-10 Surf	Wd,W,Ta,Tw, Cld,Bar,Vis	S PO_4-45 Wa,Col, Tra		39.15-375
139.10 B-3	JOHN R. MANNING (Cruise 34)	6.I.-12.III. 1957	57b,61a, 61b									FObs-38 Surf	Wd,W,Ta,Tw, Cld,Bar,Vis	S Wa		39.15-375
139.10 D-7	CHARLES H. GILBERT (Cruise 30, EQUAPAC)	7.VIII.-14.IX. 1965	57b,61a, 61b									FObs-28 Surf	Wd,W,Ta,Tw, Cld,Bar,Vis	S Wa,Col, Tra		39.15-374
139.10 D-8	CHARLES H. GILBERT (Cruise 32)	12.I.-23.III. 1957	57b,61a, 61b									Zoo-7 FObs-165 Surf	Wd,W,Ta,Tw, Cld,Bar,Vis	(T,S,PO_4)-110 Wa,Col, Tra		39.15-375
139.15 E-3	WECOMA (Cruises W7707B-W7809A) ‡	27.VI.1977-19.IX.1978 ‡	57b	359 † ‡	T,S,σ_t,δ,ΔD, PE,O_2,PO_4, NO_2,NH_4,SiO_2	30-2000	2048			D			Wd,Bar	Wa		39.07-103
139.15 E-4	WECOMA (Cruise W8102A)	5.-17.II.1981	57b	95 †	T,S,σ_t,δ,ΔD, PT	50-4000	4345			D			Wd,Bar			39.07-104
139.15 E-5	WECOMA (Cruise First Coastal Ocean Dynamics Experiment, Legs 4, 5, 7, 10) ‡	26.IV.-4.VIII. 1981 ‡	57b	542 †	T,S,σ_t,δ,ΔD, Pt	25-1000	1600			D			Wd,Ta,Tw,Bar			39.07-105 39.07-106 39.07-107 39.07-109
139.15 E-6	WECOMA (Cruises W8108B, W8112A-B)	25.VIII.-3.IX. 5.-16.XII.1981	57b	109 †	T,S,σ_t,δ,ΔD, Pt	35-4300	4405			D			Wd,Bar			39.07-108 39.07-110
139.15 E-7	WECOMA (Cruise Second Coastal Ocean Dynamics Experiment, Legs 0, 6)	27.II.-1.III., 19.-24.IV.1982	57b	121 †	T,S,σ_t,δ,ΔD, PT	30-1000	1007			D			Wd,Bar			39.07-111 39.07-112
139.15 E-8	WECOMA (Cruise W8209A)	8.-23.IX.1982	57b	77 †	T,S,σ_t,δ,ΔD, PT	37-4200	4353			D			Wd,Bar			39.07-113

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WDC - A, OCEANOGRAPHY DATA INFORMATION

COUNTRY CATALOGUE NUMBER (*)	SHIP/FIXED STATION (CRUISE)	PERIOD	REGION (IHB)	TYPES OF OBSERVATIONS										DATA CENTER REFERENCE NUMBER	WDC-A ACC. PUBS. NUMBER
				OCEANOGRAPHIC SERIAL STATIONS				BATHY-THERMO-GRAPH	CURRENTS	BOTTOM TOPO-GRAPHY	BOTTOM COMPO-SITION	BIOLOGICAL	METEOR-OLOGICAL	SEA SURFACE	
				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH								
139.16 J-17	ROCKAWAY (Cruise BOMEX, Period II)	24.V.-11.VI. 1969	23b	111 †	(T,S,σ_t,ΔD, Vs) ✠	100-400, 950	950								NODC 319009	
139.16 J-18	ROCKAWAY (Cruise BOMEX, Period III)	21.VI.-2.VII. 1969	23b	80 †	(T,S,σ_t,ΔD, Vs) ✠	950	950								NODC 319014	
139.20 A-21	ACONA	2.-10.VII.,21. -23.VIII.1974	55,58	75 †	(T,S,σ_t,δ, ΔD,Vs) ✠	18-500, 1500	1500			D ✠					NODC 319024 319043	
139.20 A-22	ACONA	16.II.-13.VI. 1978 ‡	55,58, 59	93 †	(T,S,σ_t,δ, ΔD,Vs) ✠	10-550	550			D ✠					NODC 319162 319199 319219	
139.20 A-23	ACONA	12.-17.II.,3.-9.IV.1979	58	93 †	(T,S,σ_t,δ, ΔD,Vs) ✠	50-425	700			D ✠					NODC 319184 319183	
139.20 A-24	ACONA	30.X.-2.XI., 28.XI.-2.XII. 1977	58	82	(T,S,σ_t,δ, ΔD,Vs) ✠	30-225	275			D ✠					NODC 319220 319171	
139.20 A-25	ACONA	18.VI.-8.XII. 1978 ‡	55,58, 59	226 † ‡	(T,S,σ_t,δ, ΔD,Vs) ✠	25-1500	1500			D ✠					NODC 319214 319218 319185 319217 319216 319200	
139.20 A-26	ACONA	7.III.-12.XII. 1979 ‡	55,58	252 † ‡	(T,S,σ_t,δ, ΔD,Vs) ✠	50-1500	1500			D ✠					NODC 319215 319226 319227 319228 319201 319212 319202 319235 319236	
139.23 A-4	RESEARCHER	21.II.-7.III. 1980	23a,32a, 32b	30 †	(T,S,σ_t,δ, ΔD,Vs) ✠	1000,1500	1500								NODC 319091	
139.23 A-5	RESEARCHER	13.-23.VII. 1977	23b	20 †	(T,S,σ_t,δ, ΔD,Vs) ✠	300-1000	1000			D ✠					NODC 319180	
139.23 A-6	RESEARCHER (Cruises RP-3-RE-75, RP-12-RE-75 RP-2-RE-76)	18.VI.1975-2.VII.1976 ‡	23b,26, 27	412 † ‡	T,S,σ_t,ΔD	100-2900	3420	XTb-686 ‡								39.35-451
139.23 C-3	RAINIER (Cruise BOMEX, Period I)	24.V.-10.VI. 1969	23b	61 †	(T,S,σ_t,ΔD, Vs) ✠	40,950	950								NODC 319008	
139.23 D-29	ALBATROSS IV (NAFO)	26.V.-21.VI. 1983	23b	176 †	(T,S,σ_t,δ, ΔD,Vs) ✠	20-250	303			D ✠					NODC 318603	

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‡ FOR ADDITIONAL, DESCRIPTIVE REMARKS PERTAINING TO THESE DATA, PLEASE SEE THE REMARKS SECTION.

✠ INDICATES MACHINE PROCESSED DATA THAT CORRESPOND TO THE DATA CENTER REFERENCE NUMBER.

WDC - A, OCEANOGRAPHY DATA INFORMATION

COUNTRY CATALOGUE NUMBER (*)	SHIP/FIXED STATION (CRUISE)	PERIOD	REGION (IHB)	TYPES OF OBSERVATIONS											DATA CENTER REFERENCE NUMBER	WDC-A ACC. PUBS. NUMBER
				OCEANOGRAPHIC SERIAL STATIONS				BATHY-THERMO-GRAPH	CURRENTS	BOTTOM TOPO-GRAPHY	BOTTOM COMPO-SITION	BIOLOGICAL	METEOR-OLOGICAL	SEA SURFACE		
				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH									
139.23 J-2	SURVEYOR	22.VII.-5. VIII.1977	55	130 †	(T,S,σ_t,δ, ΔD,Vs) ✠	20-700, 1500	1500			D ✠					NODC 319120	
139.23 J-3	SURVEYOR	9.-21.II.1979	58	133 †	(T,S,δ_t,δ, ΔD,Vs) ✠	50-750, 1500	1500								NODC 319196	
139.23 J-4	SURVEYOR	30.X.-13.XI. 1975	57b,58	116 †	(T,S,σ_t,ΔD, Vs) ✠	50-1500	1500			D ✠					NODC 319057	
139.23 J-5	SURVEYOR	2.III.-15.IX. 1977 ‡	55,57b, 58	316 † ‡	(T,S,σ_t,ΔD, Vs) ✠	10-1500	1500			D ✠					NODC 319096 319141 319142 319122 319123	
139.23 J-6	SURVEYOR	4.-17.III. 1978	58	179 †	(T,S,σ_t,δ, ΔD,Vs) ✠	40-1500	1500			D ✠					NODC 319221	
139.23 K-4	DISCOVERER	10.-15.X. 1975	58	22 †	(T,S,σ_t,δ, ΔD,Vs) ✠	20-180	180								NODC 319072	
139.23 K-5	DISCOVERER	20.-28.IV.,9. -16.XI.1977	55,57b, 58	104 †	(T,S,σ_t,δ, ΔD,Vs) ✠	50-750, 1500	1500			D ✠					NODC 319111 319149	
139.23 K-6	DISCOVERER	12.-26.VIII. 1975	55,57b, 58	47 †	(T,S,σ_t,ΔD, Vs) ✠	30-250	250								NODC 319071	
139.23 K-7	DISCOVERER	15.II.-21.VI. 1977 ‡	55,59	128 † ‡	(T,S,σ_t,ΔD, Vs) ✠	20-225	275			D ✠					NODC 319138 thru 319140	
139.23 K-8	DISCOVERER (Cruise EP2-79-DI	31.I.-17.II. 1979	57b,61b	115 †	T,S,σ_t,ΔD,O_2	500-1000	1019			D			Wd,W,Ta,Tw, Cld,Bar,Vis			39.35.452
139.23 L-8	OCEANOGRAPHER	22.-29.IX.1977	59	163 †	(T,S,σ_t,ΔD, Vs) ✠	40-225	225			D ✠					NODC 319147	
139.23 L-9	OCEANOGRAPHER	16.-19.IX.,17. -21.X.1972	57b	62 †	T,S,σ_t,ΔD	100-1560	1923			D			Wd,W,Ta,Tw,	Wa		39.35-450
139.23 L-10	OCEANOGRAPHER (Cruises EP3-79-OC - EP6-79-OC) ‡	22.IV.-1.XI. 1979 ‡	57b,61b	182 † ‡	T,S,σ_t,ΔD,O_2	500-1000	3850			D			Wd,W,Ta,Tw, Cld,Bar,Vis			39.35-452
139.23 M-5	VIRGINIA KEY, WESTWARD (Cruises VK75-15 - VK76-13) ‡	29.V.1975- 24.VIII.1976 ‡	23b,26, 27	217 † ‡	T,S,σ_t,ΔD	25-1150	1150	XTb ‡ 470								39.35-451
139.23 P-10	DELAWARE II (NAFO)	16.XI.-20.XII 1983	23b	152	(T,S,σ_t,δ, ΔD,Vs) ✠	10-250	310			D ✠					NODC 313071	
139.23 P-11	DELAWARE II (NAFO)	16.I.-8.II. 1984	23b	161	(T,S,σ_t,δ, ΔD,Vs) ✠	10-250	270			D ✠					NODC 313072	
139.23 P-12	DELAWARE II (NAFO)	18.I.-11.II. 1983	23b	104 †	(T,S,σ_t,δ, ΔD,Vs) ✠	30-240	249			D ✠					NODC 318604	
139.23 P-13	DELAWARE II (NAFO)	17.XI.-20.XII. 1982	23b	161 †	(T,S,σ_t,δ, ΔD,Vs) ✠	20-250	294			D ✠					NODC 318601	

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WDC - A, OCEANOGRAPHY DATA INFORMATION

COUNTRY CATALOGUE NUMBER (*)	SHIP / FIXED STATION (CRUISE)	PERIOD	REGION (IHB)	TYPES OF OBSERVATIONS											DATA CENTER REFERENCE NUMBER	WDC-A ACC. PUBS. NUMBER
				OCEANOGRAPHIC SERIAL STATIONS				BATHY-THERMO-GRAPH	CURRENTS	BOTTOM TOPO-GRAPHY	BOTTOM COMPO-SITION	BIOLOGICAL	METEOR-OLOGICAL	SEA SURFACE		
				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH									
139.23 Q-3	MT. MITCHELL (Cruise BOMEX, Period III)	20.VI.-2.VII. 1969	23b	44 †	(T,S,σ_t,ΔD, Vs) ✠	950	950								NODC 319011	
139.23 Q-4	MT. MITCHELL (Cruise BOMEX, Period IV)	10.-29.VII. 1969	23b	74 †	(T,S,σ_t,ΔD, Vs) ✠	950	950								NODC 319016	
139.23 W-2	MC ARTHUR	7.-10.III.1977	59	67 †	(T,S,σ_t,δ, ΔD,Vs) ✠	40-250	250			D ✠					NODC 319074	
139.23 W-3	MC ARTHUR	31.X.-1.XI. 1978	57b,59	15 †	(T,S,σ_t,δ, ΔD,Vs) ✠	60-200	225			D ✠					NODC 319181	
139.23 X-2	MILLER FREEMAN	2.-14.V.,25.V. -3.VI.1977	55	134 †	(T,S,σ_t,δ, ΔD,Vs) ✠	20-400	700			D ✠					NODC 319109 319110	
139.23 X-3	MILLER FREEMAN	2.IV.-18.VI. 1976	55	32 †	(T,S,σ_t,ΔD, Vs) ✠	50-1200	1300			D ✠					NODC 319038	
139.23 X-4	MILLER FREEMAN	16.-26.IV.1977	55	30 †	(T,S,σ_t, ΔD, Vs)	70-300	300								NODC 319108	
139.23 Y-3	DAVID STARR JORDAN (Cruise CalCOFI 8401)	8.-24.I.1984	57b	79	T,S,σ_t,δ_t,ΔD PT,O_2PO4,NO_2 NO_3,SiO_3	30-600	610			D		Zoo-1C6 PrPr-19 Pigm-83	Wd,W,Ta,Tw, Cld,Bar	(T,S,σ_t,δ_t ΔD,PT,O_2, PO_4,NO_2, NO_3,SiO_3) -4 ‡ Wa		39.01-271
139.23 Y-4	DAVID STARR JORDAN (Cruise CalCOFI 8402-3)	9.II.-25.III. 1984	57b	102	T,S,σ_t,δ_t, ΔD,PT,O_2,PO_4 NO_2,NO_3,SiO_3	20-620	628			D		Zoo-132 PrPr-45 Pigm-102	Wd,W,Ta,Tw, Cld,Bar	(T,S,σ_t,δ_t ΔD,PT,O_2 PO_4,NO_2, NO_3,SiO_3) -162 ‡ Wa		39.01-278
139.23 Y-5	DAVID STARR JORDAN (Cruise CalCOFI 8404,8405)	10.-30.IV.,17. V.-2.VI.1984	57b	133	T,S,σ_t,δ_t,ΔD PT,O_2,PO_4, NO_2,NO_3,SiO_3	30-600	610			D		Zoo-161 PrPr-32 Pigm-172	Wd,W,Ta,Tw, Cld,Bar	(T,S,σ_t,δ_t ΔD,PT,O_2, PO_4,NO_2, NO_3,SiO_3) -8 ‡ Wa		39.01-279
239.2 (Change 30&31*)	Neah Bay, etc.	I.-XII.1982, I.-XII.1983 *	57b,59													39.01-272 39.01-280 *
239.7 X-18	MINNETONKA	12.V.-2.VI. 1963	57b (OWS "N")	21	T,S,σ_t,δ_t,ΔD O_2	100-600	643			D			Wd,W			
239.13 C-1	PANULIRUS II	14.III.-13. XII.1977;5.I.-8.XII.1978	23b	28	(T,S,σ_t,δ, δ_t,ΔD) ✠	1600-2600	2840			D ✠					NODC 313033	

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				OCEANOGRAPHIC SERIAL STATIONS				BATHY-THERMO-GRAPH	CURRENTS	BOTTOM TOPO-GRAPHY	BOTTOM COMPO-SITION	BIOLOGICAL	METEOR-OLOGICAL	SEA SURFACE	
				NO. OF STAS.	PHYS. AND CHEM. DATA	SAMPLE DEPTHS	MAX. DEPTH								
42. YUGOSLAVIA															
142.1 C-1	ANDRIJA MOHOROVICIC (Cruise MOHO 1-74)	21.IX.-1.X. 1974	28Bg	34	(T,S,O_2,PO_4, Ptotal,NO_2, NO_3,NH_3,Si, Alk,pH) ✠	30-1000	1190			D ✠			(Wd,W,Ta,Tw, Cld) ✠		BNDO 74011511	
142.1 C-2	ANDRIJA MOHOROVICIC (Cruises MOHO 2075, 3-75)	2.-18.III.,20. IV.-17.V.1975	28Bg	66	(T,S,O_2,PO_4, Ptotal,NO_2, NO_3,NH_3,Si, Alk,pH) ✠	30-1000	1200			D ✠			(Wd,W,Ta,Tw, Cld) ✠		BNDO 75011511, 75011611	
142.1 C-3	ANDRIJA MOHOROVICIC (Cruises MOHO 4-76, 5-76)	2.II.-1.III., 6.-30.VII. 1976	28Bg	78	(T,S,O_2,PO_4, Ptotal,NO_2, NO_3,NH_3,Si, Alk,pH) ✠	30-1000	1025			D ✠			(Wd,W,Ta,Tw, Cld) ✠		BNDO 75010911 75011011	
43. KOREA															
143.1 A-3	Ship not identified	23.IV.-31. VIII.1982	52	195	T,S,O_2,pH	5-500	500			D			Wd,W,Ta,Tw, Cld,Bar	Wa,Col, Tra		43.01-011
143.2 F-15	CHUN MA SAN	8.II.-20.XII. 1982	52	204	T,S,σ_t, δ, δ_t, ΔD,O_2	45-490	497			D			Wd,W,Ta,Cld, Bar	Wa,Col, Tra		43.02-060
143.2 G-21	HAN RA SAN	8.II.-29.XII. 1982	51	312	T,S,σ_t, δ, δ_t, ΔD,O_2	20-90	98			D			Wd,W,Ta,Cld, Bar	Wa,Col, Tra		43.02-060
143.2 H-16	TAE BAEK SAN	4.II.-19.XII. 1982	50,51, 52	261	T,S,σ_t,δ,δ_t, ΔD,O_2	25-230	230			D			Wd,W,Ta,Cld, Bar	Wa,Col, Tra		43.02-060
143.2 I-12	JI RI SAN	3.II.-20.XII. 1982	52	198	T,S,σ_t,δ,δ_t, ΔD	50-500	525			D			Wd,W,Ta,Cld, Bar	Wa,Col, Tra		43.02-060
243.1 A-28	Ship not identified	1.II.-27.XII. 1982	50,51, 52									Phyt-513 Zoo-510				43.02-060
243.1 C-12	TAE BAEK SAN (Korea-Japan Cooperative)	9.II.-15.XII. 1982	50,51 52	72	T,S,σ_t,δ,δ_t, ΔD	30-125	125			D			Wd,W,Ta,Cld, Bar	Wa,Col, Tra		43.02-060

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PART III

REMARKS

REMARKS

104.1 A-43 SEA SURFACE: (T,S,O_2,pH)-8 (single readings at depth.

106.4 F-3

CODC NO.	NODC No.	CRUISE	PERIOD	NO. OF STAS.
1802-67010	181366	P-67-5	11.XII.1967-7.I.1968	12
1802-68003	181367	P-68-1	29.II.-10.IV.1968	24
1802-68005	181368	P-68-1	18.V.-3.VII.1968	31
1802-68009	188000	P-68-3	13.VII.-19.IX.1968	24
1802-68011	181370	P-68-4	30.X.-23.XI.1968	6

106.9 F-15 NO. OF STAS: A total of 164 stations were obtained by electronic, in-situ, conductivity/temperature/depth (CTD) sensors.

106.9 I-5 NO. OF STAS: A total of 116 stations were obtained by electronic, in-situ, salinity/temperature/depth (STD) sensors.

CODC NO.	NODC NO.	CRUISE	PERIOD	NO. OF STAS.
1810-69049	180429	BIO-69-049	5.-6.IX.1969	14
1810-69051	-	BIO-69-051	20.IX.-2.X.1969	120 †
1810-69053	180375	BIO-69-053	22.-23.X.1969	3
1810-69058	180376	BIO-69-058	13.-14.XI.1969	18

106.11 J-16

NODC NO.	PERIOD	NO. OF STAS. Ser.	Surf.
181456	8.-17.VI.1982	69	16
181457	17.-20.VI.1982	25	-
181458	24.VI.-8.VII.1982	26	89
181455	13.VII.-6.VIII.1982	23	74
181459	9.-30.IX.1982	69	-
181462	28.X.-8.XI.1982	-	173

106.11 U-6 SEA SURFACE: (T,S,σ_t,Vs)-6 (single readings at depth).

206.4 A-4 DATA CTR. REF. NO: Delete - NODC 18825

206.4 A-32 DATA CTR. REF. NO: Delete - NODC 18139, 18150, 18152

206.8 A-18

SHIP	NODC NO.	CRUISE	PERIOD	NO. OF STAS.
VANCOUVER	181371	P-69-1	11.I.-26.II.1969	13
QUADRA	181372	P-69-2	25.II.-9.IV.1969	45
VANCOUVER	181373	P-69-3	6.IV.-21.V.1969	25
QUADRA	181374	P-69-4	17.V.-28.VI.1969	98
VANCOUVER	181375	P-69-5	1.-28.VII.,4. VIII.1969	4
QUADRA	181376	P-69-6	13.-26.VIII.,1.-16. IX.1969	6
VANCOUVER	181377	P-69-7	23.IX.-28.X.1969	6
VANCOUVER	181378	P-69-9	9.,19.XII.1969,2., 7.I.1970	4

206.8 A-19 NO. OF STAS: A total of 287 stations were obtained by electronic, in-situ, salinity/temperature/depth (STD) sensors.

SHIP	NODC NO.	CRUISE	PERIOD	NO. OF STAS. NANSEN	STD
QUADRA	181379	P-70-1	10.I.-25.II.1970	6	29
VANCOUVER	--	P-70-2	23.II.-2.IV.1970	--	12
QUADRA	--	P-70-3	11.IV.-16.V.1970	--	10
VANCOUVER	181380	P-70-4	15.V.-1.VII.1970	9	139
QUADRA	181381	P-70-5	27.VI.-12.VIII. 1970	8	46
VANCOUVER	--	P-70-6	8.VIII.-19.IX.1970	-	12
QUADRA	181382	P-70-7	19.IX.-4.XI.1970	5	26
VANCOUVER	181383	P-70-8	31.X.-9.XII.1970	7	--
QUADRA	181384	P-70-9	4.XII.1970-9.I. 1971	5	13

206.8 A-20 NO. OF STAS: A total of 164 stations were obtained by electronic, in-situ, salinity/temperature/depth (STD) sensors.

SHIP	NODC NO.	CRUISE	PERIOD	NO. OF STAS. NANSEN	STD
VANCOUVER	188005	P-71-1	9.I.-24.II.1971	7	15
QUADRA	188007	P-71-2	20.II.-7.IV.1971	6	33
VANCOUVER	188006	P-71-3	3.IV.-19.V.1971	8	29
QUADRA	181388	P-71-4	15.V.-30.VI.1971	6	26
VANCOUVER	181406	P-71-5	25.VI.-11.VIII.1971	7	29
QUADRA	181389	P-71-6	6.VIII.-22.IX.1971	9	12
VANCOUVER	181390	P-71-7	18.IX.-3.XI.1971	5	--
QUADRA	181391	P-71-8	30.X.-8.XII.1971	3	20
VANCOUVER	--	P-71-9	3.XII.1971-16.I.1972	Surface only	

206.8 G-1

CRUISE	PERIOD	NO. OF STAS.
1	27.-28.IV.1976	8
2	7.VI.1976	8
3	12.VII.1976	8
4	31.VIII.1976	8
5	30.IX.1976	8
6	31.XI.1976	8
7	13.XII.1976	8
8	25.I.1977	8
9	1.III.1977	8
10	6.IV.1977	8
11	3.V.1977	8
12	3.VI.1977	8
13	4.VII.1977	8
14	21.VII.1977	6
15	30.VIII.1977	8
16	22.IX.1977	8
17	7.XI.1977	8
18	12.-13.XII.1977	8

206.8 G-2

CRUISE	PERIOD	NO. OF STAS.
19	22.I.1978	8
20	21.II.1978	7
21	17.-18.III.1978	8
22	21.IV.1978	8
23	29.V.1978	8
24	15.VI.1978	8
25	6.VII.1978	9
26	2.VIII.1978	(O_2 obs. only)
27	14.-15.VIII.1978	9
28	29.-30.VIII.1978	13
29	14.-15.IX.1978	11
30	2.-4.X.1978	14
31	25.X.1978	9
32	23.-24.XI.1978	9
33	14.XII.1978	7

209.1 (1974) SHIP OR FIXED STATION:

VYL (LV)	Vilsundbroen	Rodbyhavn
SKAGENS REV (LV)	Alborg	Rorvig
LAESO NORD (LV)	Frederikshavn	Frederikssund
ANHOLT NORD (LV)	Sletterhage	Kobenhavn
KATTEGAT S (LV)	Sonderborg	Middelgrund Fort
DROGDEN (LV)	Kysthospitalet	Rodvig
GEDSER REV (LV)	Bagenkop	Klintholm Havn
	Middelfart	Storstromsbro
		Christianso

209.1 (1976) SHIP OR FIXED STATION:

LAESO TRINDEL (LV)	Vilsundbroen	Rodbyhavn
SKAGENS REV (LV)	Alborg	Rorvig
HORNS REV (LV)	Frederikshavn	Frederikssund
ANHOLT KNOB (LV)	Sletterhage	Kobenhavn
KADETRENDEN (LV)	Sonderborg	Middelgrund Fort
DROGDEN (LV)	Kysthospitalet	Rodvig
GEDSER REV (LV)	Bagenkop	Klintholm Havn
	Middelfart	Storstromsbro
		Christianso

113.3 H-4

BNDO NO.	CRUISE	PERIOD	NO. OF STAS.
72001911	CAP 7210	3.-21.V.1972	43
72002011	CAP LOPEZ	12.VI.-26.VII.1972	27
72002111	EQUATEUR	31.VIII.-27.IX.1972	146

113.3 H-5

BNDO NO.	CRUISE	PERIOD	NO. OF STAS.
73000411	CAP 7302	10.-11.I.1973	14
73006411	CAP 7309	5.VII.-6.X.1973	81
73006511	UPWELLING	18.-25.VI.1973	62
73006611	RECIF	19.-29.X.1973	22
73006711	EQUATEUR	13.-17.XI.1973	12
73008911	CAP 7316	20.-25.XI.1973	7

113.3 H-6	BNDO NO.	CRUISE	PERIOD	NO. OF STAS.
	74001911	CAP LOPEZ	30.VI.-16.VII.1974	46
	74006811	GATE Phase 2	25.VII.-10.VIII.1974	55

113.3 H-7	BNDO NO.	CRUISE	PERIOD	NO. OF STAS.
	75000111	ANGOLA 7501	8.I.-1.II.1975	80
	75000511	CAP 7502	12.II.-5.III.1975	58
	75002911	ANGOLA 7506	15.VII.-10.VIII.1975	64

113.3 H-8	BNDO NO.	CRUISE	PERIOD	NO. OF STAS.
	76001311	CAP 7601	8.-28.I.1976	28
	76008011	PHYCAP 7606	24.V.-22.VI.1976	74
	76002611	PROCAP 7607	5.-22.VII.1976	17

113.3 H-9	BNDO NO.	CRUISE	PERIOD	NO. OF STAS.
	77000211	EOPEA 1	18.I.-3.II.1977	40
	77005311	EOPEA 2	9.-23.VII.1977	21

113.3 H-10	BNDO NO.	CRUISE	PERIOD	NO. OF STAS.
	78002421	CAPREA	2.VIII.-14.IX.1978	96
	78002312	MOPRE 2	17.-19.IX.1978	12

113.3 H-11	BNDO NO.	CRUISE	PERIOD	NO. OF STAS.
	79004711	PEMG SOP 1	13.-30.I.,5.-18. II.1979	67
	79001111	CIPREA 2	2.-27.IV.1979	29
	79001811	PEMG SOP 2	3.-14.VI.1979	28
	79003211	CIPREA 3	22.VI.-16.VII.1979	49
	79006811	CIPREA 4	20.X.-1.XI.1979	65

113.3 J-2	BNDO NO.	CRUISE	PERIOD	NO. OF STAS.
	82003511	CEE2-NIZ	7.-30.VIII.1982	45
	82007311	NICAL 1	5.-17.XI.1982	39

114.1 M-28	CRUISE	PERIOD	NO. OF XBT STAS.
	10	10.V.-9.VI.1981	33
	12	5.VIII.-8.IX.1981	36
	12	25.VII.-28.VIII.1981	42
	13	8.IX.-15.X.1981	40
	13	26.IX.-6.X.1981	18
	14	26.X.-29.XI.1981	33
	15	11.-19.XII.1981	17
	15	27.XII.1981-29.I.1982	32

114.1 M-28	CRUISE	PERIOD	NO. OF XBT STAS.
	10	10.V.-9.VI.1981	33
	12	5.VIII.-8.IX.1981	36
	12	25.VII.-28.VIII.1981	42
	13	8.IX.-15.X.1981	40
	13	26.IX.-6.X.1981	18
	14	26.X.-29.XI.1981	33
	15	11.-19.XII.1981	17
	15	27.XII.1981-29.I.1982	32

114.1 M-29	CRUISE	PERIOD	NO. OF XBT STAS.
	16	27.I.-1.III.1982	36
	16	10.II.-18.III.1982	41
	17	12.III.-17.IV.1982	35
	17	9.IV.-15.V.1982	35
	18	1.V.-7.VI.1982	16
	18	28.V.-1.VII.1982	32
	19	19.VI.-24.VII.1982	16
	19	15.VII.-18.VIII.1982	34
	20	29.VIII.-3.X.1982	29
	21	18.-27.IX.1982	10
	22	2.XI.-6.XII.1982	14

114.1 M-30	CRUISE	PERIOD	NO. OF XBT STAS.
	24	1.-7.II.1973	7
	25	19.III.-19.IV.1983	26
	26	6.V.-8.VI.1983	33

114.11 B-1	CRUISE	PERIOD	NO. OF STAS.
	78	24.IV.-7.V.1979	10
	81	27.-29.VI.1979	6
	84	30.VIII.-1.IX.1979	7
	88	6.-21.XI.1979	15

114.11 B-2	CRUISE	PERIOD	NO. OF STAS.
	91	29.I.-1.II.1980	7
	94	11.-14.III.1980	7
	96	10.-22.IV.1980	10
	102	22.-27.VII.1980	7
	107	3.-12.XI.1980	10

114.11 B-3	CRUISE	PERIOD	NO. OF STAS.
	112	4.-13.II.1981	10
	115/1	22.-27.III.1981	7
	115/2	30.III.-3.IV.1981	5

114.11 B-5

CRUISE	PERIOD	NO. OF STAS.
149	25.-28.I.1983	4
150	3.-9.II.1983	9
152	7.-17.III.1983	10

214.1

FIXED STATIONS	REGION		NO. OF STAS.	NO. OF CURRENT OBS.
	NORTH SEA			
BORKUMRIFF (LV)	53°48.0'N	6°22.0'E	--	3,638
DEUTSCHE BUCHT (LV)	54°11.0'N	7°27.0'E	--	3,376
ELBE I (LV)	54°00.0'N	8°07.0'E	52	3,839
	BALTIC SEA			
FEHMARNBELT (LV)	54°36.0'N	11°09.0'E	352	2,139

214.1

FIXED STATIONS	REGION		NO. OF STAS.	NO. OF CURRENT OBS.
	NORTH SEA			
BORKUMRIFF (LV)	54°48.0'N	6°22.0'E	--	3,444
DEUTSCHE BUCHT (LV)	54°11.0'N	7°27.0'E	--	3,324
ELBE I (LV)	54°00.0'N	8°07.0'E	61	3,703
	BALTIC SEA			
FEHMARNBELT (LV)	54°36.0'N	11°09.0'E	365	2,187

123.1 F-1

CRUISE	PERIOD	NO. OF STAS.	NO. OF SUR. OBS.
MAD 01	12.-13.XII.1970	10	--
MAD 02	25.III.-7.IV.1971	26	--
MAD 03	19.-24.III.1972	19	21

124.1 B-73 CURRENTS: Subsurface currents measured with Richardson type current meters.

124.1 B-75 CURRENTS: Subsurface currents measured with Richardson type current meters.

124.1 E-14,E-15 CURRENTS: Subsurface currents measured with Richardson type current meters.

124.1 F-21 PERIOD: 23.I.-11.III,7.-15.III.,18.-22.IV.,12.-27.,23.VI.-16.VII.,16.VIII.-14.IX.,10-25.X.,12-23.XI.1982

124.1 F-22 PERIOD: 1.-17.II.,9.-15.III.,20.-24.IV.,11.V.-1.,19.VI.-11.VII.,6.VIII.-19.IX.,7.-24.X.,10.-27.XI.1983

124.2 B-54

CRUISE	PERIOD	STAS	PHYT	NO. OF FISHERY OBS.			
				Longline	Gillnet	Trawls	Larvae
93	13.-18.XI.1982	12	--	--	--	22	--
94	4.-6.IV.1983	6	--	--	--	10	--
95	6.VI.-4.VIII.1983	78	69	13	21	--	37
96	29.VIII.-1.IX.1983	9	29	--	--	6	--

124.2 C-7

NO. OF STAS: A total of 9 stations were obtained by electronic, in-situ, conductivity/temperature/depth CTD sensors.

CRUISE	PERIOD	STAS.	DTb	NO. OF FISHERY OBS.		
				Longline	Gillnet	Trawl
20	19.I.-21.II.1983	58	--	11	4	11
21	2.-6.IV.1983	12	--	--	--	9
22	4.VI.-5.VIII.1983	59	--	--	30	--
23	20.-29.VIII.1983	32	36	--	--	--

124.8 D-67

CURRENTS: Subsurface currents measured with Richardson type current meters.

124.8 D-68

CURRENTS: Subsurface currents measured with Richardson type current meters.

124.9 A-81

CURRENTS: Subsurface currents measured with Richardson type current meters.

124.9 A-83

CURRENTS: Subsurface currents measured with Richardson type current meters.

124.13 B-20

SHIP	NO. OF MBT's	NO. OF XBT's	NO. OF GEK's
ESAN	--	38	46
ETIZEN	--	45	107
ISAZU	--	18	37
KAIYO	--	83	172
KOSIKI	--	23	53
KUROBE	--	23	56
MASYU	--	20	40
MATUSIMA	--	23	23
MEIYO	--	51	101
NOTO	--	12	54
OKI MARU	--	23	51
OZIKA	--	71	69
SADO	--	26	83
SATUMA	22	34	126
SINANO	--	19	77
SIRETOKO	--	22	39
SORATI	--	136	11
SOYA	--	11	5
WAKASA	--	28	57
YAHIKO	--	22	74

A total of 1,315 GEK's were taken by the following ships:

ABUKUMA	KAMISIMA	REBUN
AMAMI	KUMA	SAGAMI MARU
ASIZURI	KUNIGAMI	SENDAI
AWAZI	MATUURA	SIKINE
HATERUMA	MINABE	SUZUKA
HUZI	MIURA	TYOKAI
ISUZA	MOTOBU	YONAKUNI
IWAKI MARU	MUROTO	
IZU	OKINAWA	

124.13 E-61 PERIOD: 11.-24.I.,21.22.II.,4.-22.III.,10.-23.IV.,7.-31.V., 10.-28.VI.,26.IX.-6.,21.X.-14.XI.,9.-21.XII.1982

124.19 A-12 NO. OF STAS: A total of 11 stations were obtained by electronic, in-situ, salinity/temperature/depth (STD) sensors.

124.21 E-2 NO. OF STAS: A total of 47 stations were obtained by electronic, in-situ, salinity/temperature/depth (STD) sensors.

224.1 A-7 CURRENTS: Each station represents 8 readings taken during one day.

SEA SURFACE: T-Measured at 2, 20, and 50 meters.

127.1 G-1

CRUISE	PERIOD	NO. OF STAS.
1010	23.VIII.-6.IX.1973	33
1041	29.VIII.-15.IX.1975	29
1047	13.-24.VIII.1976	34
1050	6.X.1976	15
1055	14.I.1977	5

127.1 G-2

CRUISE	PERIOD	NO. OF STAS.
--	25.IV.1974	10
1067	12.X.-8.XI.1977	90
1069	5.-18.XII.1977	92
1070	11.-29.I.1978	52
1071	4.-19.II.1978	32
1078	18.-21.VIII.1978	14

BIOLOGICAL: All biological observations were collected during Cruise 1070 only.

130.1 C-26

NODC NO.	CRUISE	PERIOD	NO. OF STAS.
650055	7105	23.V.-7.VI.1971	33
650061	7108	17.VIII.-1.IX.1971	32
650056	7111	13.-26.XI.1971	41

130.1 C-27

NODC NO.	CRUISE	PERIOD	NO. OF STAS.
650062	7202	16.II.-10.III.1972	56
650058	7203	3.-5.IV.1972	9
650059	7204	26.IV.-2.V.1972	22
650065	7206	23.-27.VI.1972	7
650066	7207	8.-18.VII.1972	21
650067	7211	20.-22.XI.1972	7
650068	7212	6.-12.XII.1972	20

130.1 D-5

NODC NO.	CRUISE	PERIOD	NO. OF STAS.
650037	6902	25.I.-5.III.1969	21
650038	6906	18.-23.VI.1969	30
650039	6907	15.-25.VII.1969	29
650040	6908	28.VIII.-18.IX.1969	20
650041	6910	30.X.1969	3
650042	6911	15.-30.XI.1969	14
650043	6912	18.-20.XII.1969	11

133.1 D-6

CRUISE	PERIOD	NO. OF MBT's	NO. OF XBT's
MALAC VIII	29.-31.V.1973	14	19
MALAC IX	26.-28.VI.1973	12	19
MALAC X	17.-22.VII.1973	11	28

133.1 E-1

CRUISE	PERIOD	NO. OF MBT's	NO. OF XBT's
MALAC I	26.-30.V.1966	20	--
MALAC II	8.-18.VIII.1966	20	--
MALAC III	7.-30.VI.1971	105	--
MALAC IV	16.-28.IX.1971	210	--
MALAC V	6.-9.VI.1972	17	41
MALAC VI	4.-7.VII.1972	28	45

135.1 G-17

NO. OF STAS: A total of 127 stations were obtained by electronic, in-situ, conductivity/temperature/depth (CTD) sensors.

SEA SURFACE: (T,S,σ_t,O_2)-4 (Single readings taken at various depths.

135.1 G-18

NO. OF STAS: A total of 37 stations were obtained by electronic, in-situ, conductivity/temperature/depth (CTD) sensors.

139.5 B-15

CRUISE	PERIOD	NO. OF STAS.
TR-155	5.-24.VII.1974	45
TR-156	2.-19.VIII.1974	68
TR-157	14.-15.IX.1974	7

139.8 D-81

NO. OF STAS: A total of 195 stations were obtained by electronic, in-situ, salinity/temperature/depth (STD) sensors.

139.8 D-82

NO. OF STAS: A total of 352 stations were obtained by electronic, in-situ, salinity/temperature/depth (STD) sensors.

SHIP	CRUISE	PERIOD	NO. OF STAS.
ALEXANDER AGASSIZ	7501	17.I.-15.III.1975	57
DAVID STARR JORDAN	7501	9.I.-6.II.1975	157
ALEXANDER AGASSIZ	7503	24.II.-2.III.1975	31
DAVID STARR JORDAN	7503	28.II.-28.III.1975	156

139.8 D-83

NO. OF STAS: A total of 337 stations were obtained by electronic, in-situ, salinity/temperature/depth (STD) sensors.

CRUISE	PERIOD	NO. OF STAS.
7505	10.V.-5.VI.1975	177
7506	9.-11.VI.1975	52
7509	14.-20.IX.1975	73
7512	9.-13.XII.1975	52

139.8 D-84

NO. OF STAS: A total of 450 stations were obtained by electronic, in-situ, salinity/temperature/depth (STD) sensors.

SHIP	CRUISE	PERIOD	NO. OF STAS.
ALEXANDER AGASSIZ	7507	24.VI.-15.VII.1975	154
DAVID STARR JORDAN	7507	25.VI.-18.VII.1975	128
ALEXANDER AGASSIZ	7510	5.-27.X.1975	99
DAVID STARR JORDAN	7510	23.X.-14.XI.1975	124

139.8 S-4

NODC NO.	PERIOD	NO. OF STAS.
319178	23.II.-21.VIII.1981	153
319174	18.-27.IX.1981	4
319176	22.X.-2.XI.1981	18
319175	4.-13.X.1981	27
319177	11.-16.XI.1981	138

139.8 V-1 SEA SURFACE: $(T,S,\sigma_t,\delta_t,\Delta D,PT,O_2,PO_4,NO_2,NO_3,SiO_3)$-5
(Single readings at 10m)

139.8 V-3 SEA SURFACE: $(T,S,\sigma_t,\delta_t,\Delta D,PT,O_2,PO_4,NO_2,NO_3,SiO_3)$-8
(Single readings at 10m)

139.15 E-3 NO. OF STAS: A total of 276 stations were obtained by electronic, in-situ, conductivity, temperature/depth (CTD) sensors.

CRUISE	PERIOD	NO. OF STAS.
W7707B	27.VI.-2.VIII.1977	23
W7710B	16.-18.X.1977	15
W7710D	26.-29.X.1977	22
W7711B	30.XI.-2.XII.1977	21
W7712A	15.-16.XII.1977	7
W7801A	26.I.1978	1
W7802A	10.-11.II.1978	25
W7805A	10.-24.V.1978	132
W7807B	25.-26.VII.1978	18
W7809A	10.-19.IX.1978	95

139.15 E-5

CRUISE LEG	PERIOD	NO. OF STAS.
Leg 4	26.IV.-7.V.1981	154
Leg 5	17.-29.V.1981	208
Leg 7	2.-13.VII.1981	141
Leg 10	1.-4.VIII.1981	39

139.20 A-22

NODC NO.	PERIOD	NO. OF STAS.
319162	16.-25.II.1978	48
319199	1.-7.IV.1978	21
319219	11.-13.VI.1978	24

139.20 A-25

NODC NO.	PERIOD	NO. OF STAS.
319214	18.-24.VI.1978	11
319218	11-12.VII.1978	5
319185	31.VII.-12.VIII.1978	145
319217	24.-30.VIII.1978	24
319216	17.-19.X.1978	29
319200	8.XII.1978	12

139.20 A-26

NODC NO.	PERIOD	NO. OF STAS.
319215	7.III.1979	1
319226	17.-21.III.1979	6
319227	18.-26.IV.1979	66
319228	10.V.1979	2
319201	24.V.-9.VI.1979	35
319212	13.-19 VII.1979	38
319202	24.-28.VII.1979	72
319235	19.-28.IX.1979	5
319236	4.-12.XII.1979	27

139.23 A-6 NO. OF STAS: A total of 159 stations were obtained by electronic, in-situ, salinity/temperature/depth (STD) sensors.

CRUISE	PERIOD	NO. OF STAS. SERIAL	XTB's
RP-3-RE-75	18.-30.VI.1975	154	357
RP-12-RE-75	18.X.-25.XI.1975	258	259
RP-2-RE-76	25.V.-2.VI.1976	--	52

139.23 J-5

CRUISE	PERIOD	NO. OF STAS.
319096	2.-8.III.1977	16
319141	18.III.-4.IV.1977	21
319142	17.IV.-1.V.1977	16
319122	16.-29.VIII.1977	133
319123	6.-15.IX.1977	130

139.23 K-7

NODC NO.	PERIOD	NO. OF STAS.
319139	15.-17.II.1977	38
319140	22.V.-9.VI.1977	37
319138	18.-21.VI.1977	53

139.23 L-10

NODC NO.	PERIOD	NO. OF STAS.
EP3-79-OC	22.IV.-7.V.1979	60
EP4-79-OC	28.V.-8.VI.1979	46
EP5-79-OC	4.-11.VII.1979	34
EP6-79-OC	19.X.-1.XI.1979	42

139.23 M-5

CRUISE	PERIOD	NO. OF STAS. SERIAL	XTB's
VK75-15	29.V.-29.VI.1975	67	165
VK75-25	19.-30.VIII.1975	44	81
VK75-27	16.-23.XI.1975	24	14
VK76-02	10.-23.II.1976	24	84
--	10.-28.II.1976	43	--
VK76-06	30.IV.-7.V.1976	--	60
VK76-13	17.-24.VIII.1976	15	66

139.23 Y-3 SEA SURFACE: $(T,S,\sigma_t,\delta_t,\Delta D,PT,O_2,PO_4,NO_2,NO_3,SiO_3)$-4
(Single readings at 10m)

139.23 Y-4 SEA SURFACE: $(T,S,\sigma_t,\delta_t,\Delta D,PT,O_2,PO_4,NO_2,NO_3,SiO_3)$-162
(Single readings at 10m)

139.23 Y-5 SEA SURFACE: $(T,S,\sigma_t,\delta_t,\Delta D,PT,O_2,PO_4,NO_2,NO_3,SiO_3)$-8
(Single readings at 10m)

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